

*Includes EcoTax

Winter

Number 124

June - August 2003

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SUSTAINABLE LIVING AND PLANET CARE -

EARTH GARDEN

- FOR BUSH OR CITY ALTERNATIVES -

**Phil's Organic 'Share' Farm Delivers
The Goods — See How On Page 51**

**Run Your Car
On Vegie Oil**

**Eco-Friendly
Brick Veneer?**

**Wwoofing
In Queensland**

Solar Central Heating

Make Your Own Ink

**Organic Tree Farms:
Soil Preparation**

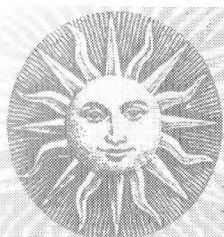
'Hay Box' Cooker

**JACKIE FRENCH:
FIRE RETARDANT PLANTS,
GROWING ONIONS,
AND BLOODY CATTLE!**



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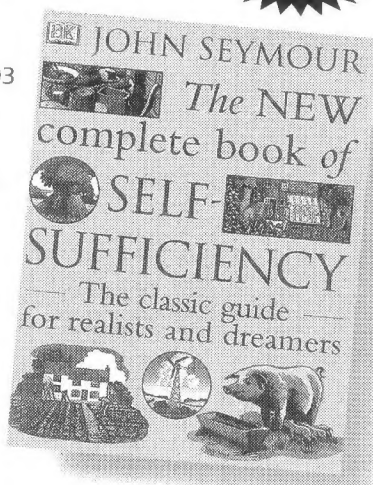
AUTUMN/WINTER 2003

THE NEW COMPLETE BOOK OF SELF-SUFFICIENCY

John Seymour
\$59.95 inc GST

The publishing event of 2003 for anyone interested in sustainable living. John Seymour, the father of English self-sufficiency, now 88 years old but still active on his smallholding in Ireland, has completely revised his 1976 classic text which kick-started massive lifestyle changes for thousands of Australians. Hundreds of new illustrations accompany a fully-revised and eloquent text which covers all aspects of self-sufficiency in more detail than any other book. Packed with invaluable advice and practical information which explains how to reap the harvest, respect the land, stay healthy and waste nothing. A beautifully-presented book to treasure, read and bequeath! 312 pages, large format hardcover.

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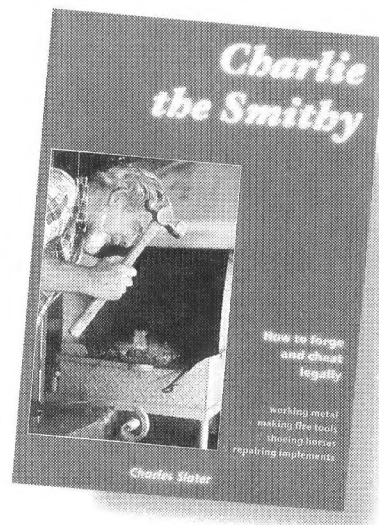


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Charles Slater
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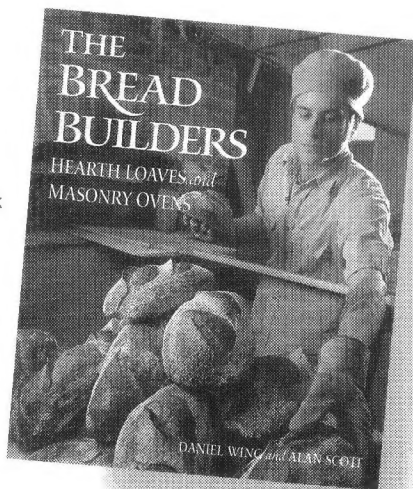
This is a very special book and a delight to read and use. The author has more than 50 years experience as one of the last trained blacksmiths, originally from Scotland, and now working out of Canberra. A lifetime's knowledge is crammed into this guide, along with humour, family history, and some little gems of wisdom. Any budding blacksmith or metal worker will be utterly delighted by this book: learn how to build a forge, assemble the correct tools in the right positions, and then learn how to make a full range of tools and blacksmithing items. A precious little book. 79 pages.



THE BREAD BUILDERS

Daniel Wing and
Alan Scott
\$85.00 inc GST

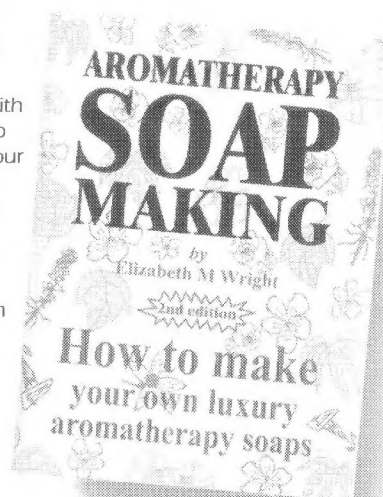
Even if you never build one of the elegant masonry brick bread ovens detailed in this hugely informative book, the wisdom about natural bread baking will leave you very satisfied. Good quality bread is such a vital part of a happy healthy diet, but we often compromise and make do with rubbish when good bread is hard to find. No more! With this book you will want to bake naturally-fermented hearth loaves with the finest quality leavens and whole grains. This book re-elevates bread baking to the divine artform that it once was. Essential for any good lifer's library. 253 pages.



AROMATHERAPY SOAPMAKING

Elizabeth Wright
\$16.50 inc GST

An easy to use book with everything you need to know about making your own soap. Includes simple, fail-safe recipes which are especially good for the beginner soap maker. You can choose from more than 20 recipes with a variety of different vegetable oils as a base. A wonderful Australian guide. 56 pages.



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Front Cover: Fresh vegies from the organic farmer to your door! Phil Hansen and Indira Ragg-Hansen examine broad beans on Phil's organic permaculture farm, Teikei Organics, near Castlemaine in central Victoria. Read more about such Community Supported Agriculture enterprises where you pay a regular 'subscription' fee to receive a weekly basket of fresh produce, on page 51. **Photograph by Jodi Turnbull.**

— SUSTAINABLE LIVING AND PLANET CARE —
EARTH GARDEN
— FOR BUSH OR CITY ALTERNATIVES —

Number 124
June – August 2003

Back Cover: From shin high to head high in one year! 18 year old Tane Thomas finishes a little grass and weed control on one year old acacias and eucalypts growing for fine furniture timber on Judith Gray's organic tree farm near Trentham in central Victoria. You can read more about ground preparation for successful organic tree farming on page 48.

EcoTax: this issue's EcoTax has gone to provide a full set of back copies of *Earth Garden*, worth \$385, to the 'Schools Without Walls' project involving 200 villages in the remote jungle area of Alwar in Rajasthan, India. This is the last habitat in Rajasthan of the endangered Indian tiger, and an education program aims to help villagers preserve the tigers' habitat. The magazines will help form an ecology research library for the school. For more details email: <nirvanaalwartiger@hotmail.com>.



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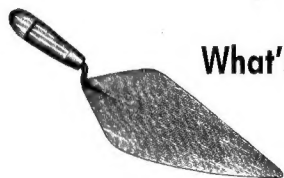
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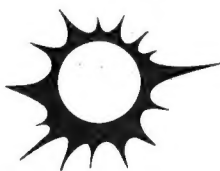
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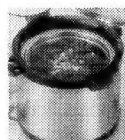
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Founded by Keith & Irene Smith, 1972.

EARTH GARDEN is Australia's original journal of sustainable living and alternatives. It is a forum of practical ideas, shared knowledge, sources and a guide to alternatives to high-consumption lifestyles. It's about putting a roof over your head, growing your own food organically, aiming for appropriate, renewable home energy systems and surviving — and thriving — in the city or the bush, with the inner changes which follow when you're in harmony with Nature.

EcoTax: each issue we donate a portion of the cover price to a community group involved in tree planting or conservation projects to help balance the use of the partly recycled paper used for printing *Earth Garden*. We would like to see all publishers pay an EcoTax.

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Contributions to *Earth Garden* are welcome: sharing information and experiences with other readers strengthens the network of Earth Gardeners. Photos and illustrations are important. Please write first with your story idea. Subscribers are sustainers: for subscription details see page 80.

We welcome advertisements appropriate to the aims and ideals of *Earth Garden*, but reserve the right to refuse ads at our discretion. Contact us for display rates.

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(We don't have the resources to staff telephone enquiries: please write or fax.)



Beyond The Bitumen

Dear readers,

Welcome to the winter issue of *Earth Garden*. This issue seems to be full of 'idea' articles with ample scope for plotting and scheming before getting your hands dirty. Sometimes I think this might be what all Earth Gardeners have in common: a strong desire to plot and scheme and then turn these ideas into something concrete (or poured earth). If I think of people like Barry Traill, he's always plotting some new way to overthrow broadscale landclearing in Queensland, Jackie is plotting new ways to get better results from plants that shouldn't really have a hope of growing in her climate, Gary Thomas is plotting new ways to challenge our taste buds, and all our readers seem to be planning ways to make their lives more interesting and sustainable.

When I look around at the rest of the world it seems many people are content just to consume — to passively accept whatever entertainment, food, shelter, consumer goods, TV shows, boyfriends, girlfriends, politicians, or job conditions are slopped onto their plate. I'm not going to list the articles that I think will have you plotting and scheming: I think it's a waste of space when magazine editors use their editorials to simply regurgitate the contents page. Something tells me that *Earth Garden* readers are already capable of reading the contents page and then the articles that follow.

Winter is the perfect time for plotting and scheming — in spring and summer it's so easy to be caught up in the sheer joy and bustle of planting and growing or building that we don't often get time

to sit back and reflect on our 'systems' and any improvements we might want, any lifestyle changes, or new projects. South of the Tropic of Capricorn, now is a great time for a little fireside reflection. Of course, north of the tropic, now is the peak time for busy bees in fruit and vegie gardens, and I hope our northern readers are enjoying the cooler, drier weather.

Our family has had a major shake up this year: on 8 February Judith gave birth to a little girl, our gorgeous little Adelaide Daisy Gray. A week before she was born, Grandpa said to us: "Look, I know you're having another boy but if it's a girl, call her Adelaide, will you?" Judith was supposed to be an Adelaide but, in the heat of the moment, Grandpa forgot. Adelaide was born on 8 February, and she is undoubtedly the most relaxed baby I have ever known. In my 20-odd years of changing nappies I've got to know the habits and stages of my four boys. But now I'm in totally unknown territory and I'm wondering if all baby girls are as relaxed, easy going, and sensible as this little one! If so, why didn't anyone tell me? Yes, I can hear the mothers of teenage girls saying: "Just you wait!"

Adelaide being a girl was a total shock because Judith and I were completely convinced we were going to have another boy (which didn't fuss us — we had a great name lined up). I just thought that 'boys' were the only item possible on the menu. When we recovered from the shock and excitement (I think we have now) I started paying out on the four bets I'd made: \$150 to Uncle Tony (\$50 at 3 to 1 that we'd have a boy), and three other 'suckers' I'd felt a twinge of guilt betting with. A midwife calmly said to me: "Get used to paying out because it's the start of a lifelong habit."

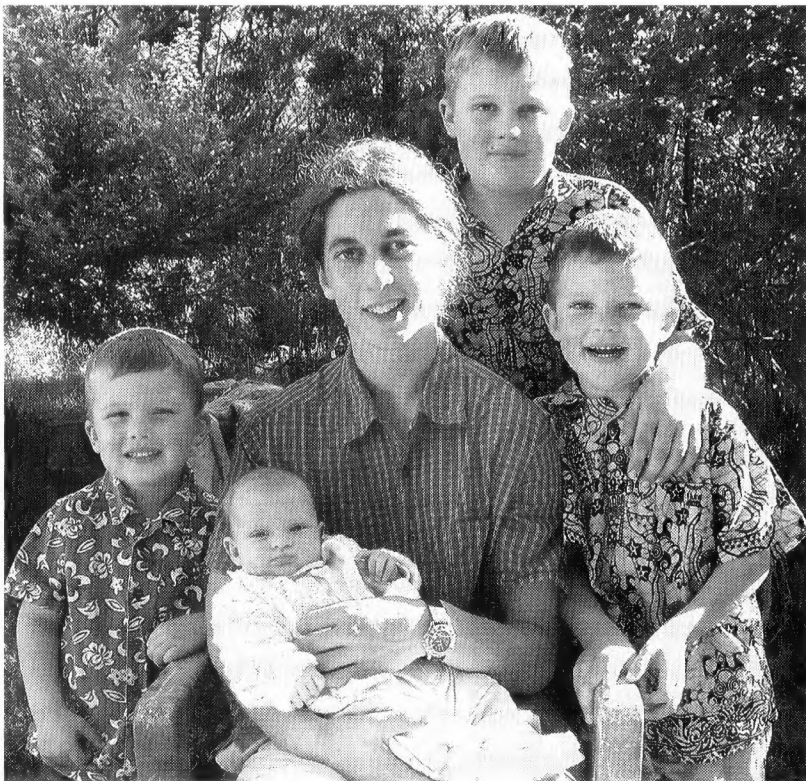
For a couple of days Woody and Bertie were a little miffed that they didn't have a baby brother, and snorted: "*Dolls!* We're not having *dolls* in the house!" But very quickly all the boys have taken to their baby sister with a special attachment. Judith and I are often woken in the mornings by little boys' hands shooting under the bedcovers to stroke the baby's head. And Tane is already muttering that the boyfriends she brings home better be pretty high quality or else he'll be frog marching them out of the house. Having another girl in the house will start to balance things up just a little for Judith. As Jill Redwood said: "Yay, the YY". I couldn't agree more, even if I did have to ask someone what that meant.

This winter our family is enjoying a slow, restful camping trip around some remote Kimberley waterholes. I'm looking forward to the chance to sit and hold my baby daughter quietly, away from the hurly burly of the past six months of a debilitating State election campaign, forest campaigning, adjusting to life with another newborn, Tane starting university in Hobart, Harry spending most waking hours at his blacksmith forge, Bertie starting school, and Woody being as delightfully sunny as ever. We are very lucky that all the staff at *Earth Garden* have just kept on with their exceptionally precise work standards throughout our preoccupation with Adelaide.

I hope you enjoy the long winter evenings ahead, and I hope you find lots to plot and scheme about in this issue of *Earth Garden*.

Happy reading,

Alan



Alan's five children in the garden in April (from left): Woody (3), Adelaide (8 weeks), Tane (18), Harry (10), and Bertie (5).



Earth People Write

Earth People Write is an open forum. The views expressed in letters from readers do not necessarily reflect the opinions of *Earth Garden*. Letters are always welcome, but please keep them concise. This issue we're giving away to our favorite letter writer a copy of *No Dig Gardening* and *The Seeds Of Life* by Esther Deans.

Bull rush and Patterson's curse

Dear 'Earth Garden'.

We live on a five acre property at Nanneella which is about 15 km outside Echuca in Victoria. We have found that our land is becoming infested with bull rushes and Patterson's curse. We have contacted the Department of Sustainability and Environment regarding the safe removal of these weeds and they could only give us a solution to the Patterson's curse. Can someone please tell us how we can combat the bull rushes before they totally invade us? Thanks kindly.

Jodie & Gavin Waters, email: <rohech@origin.net.au>.

Cold and hot conditions

Dear editor.

Can anyone please help me locate any information on plants for gardens suitable to a climate that suffers from the extremes of heat and cold? We live in an area that has incredible frost and temperatures down to -5°, then in summer, harsh winds and long periods of dry weather. We have *some* water, but not a great deal, because by the end of summer the dam is usually dry.

I am so tired of watching these lifestyle shows on TV, with all their beautiful plants and gardens that end the segment by saying not suitable for cold climates. Hello! There is life after Queensland and the warmer areas. People do live in other areas of Australia, that do not have that sort of mild weather. There is so much information out there covering so many aspects of gardening — surely there is something that can help me. If you know of it, let me know please! Looking forward to hearing from anyone.

Kim Hastings, 'Stratheden', West Wimbledon Road, Wimbledon, NSW, 2795.

Buying noni trees

Dear 'Earth Garden'.

The noni tree, *Morinda Citrifolia*, is available in some nurseries and is grown by Daley's fruit tree growers, PO Box 154, via Kyogle, NSW, 2474. The tree grows to about six metres, has low frost tolerance and fruit are harvested in winter.

Robyn, Cessnock, NSW.

Calico shopping bags

Dear 'Earth Garden'.

Would any *Earth Garden* readers know of a good pattern for a calico shopping bag? I'm not sure if you have had an article on this in the past.

Steve Ball, Sunbury, Vic, email: <stephenball@austarnet.com.au>.

Tree growing offer

Dear Karen,

I was wondering if you know of any groups that might need someone to grow trees for them? I have a hot house and a shade house that are never full and I have a little time each week to look after some seedlings. I remember once I grew some for a group but I can't remember the name! Also I think I had to pay to grow them. Money is tighter now so if there is a group that needs space and labour with little or no money involved that would be better for me. I live in Emerald in the Dandenongs near Melbourne.

Also I wondered if you had ever done a story on telescopes? Particularly comparing the different brands and types? I have been buying your magazine for seven years now but I can't remember seeing anything on telescopes. With thanks,
Michael and Sarah Torsello, email: <mstorsello@i.net.au>.

More noni tree thoughts

Dear 'Earth Garden'.

I am writing about the noni tree mentioned by Val Smetheram in *Earth People Write* in EG 122. A noni tree is the common name for the *Morinda Citrifolia*, which is a native of the Pacific and tropical areas of Australia. The fruit does look a lot like the breadfruit photo that Keith Smith had in EG 118. However, if you sniff the ripe fruit, you will know it is noni fruit by the smell — it is not called vomit fruit for nothing!

It has a very distinctive odour, although the fruit is supposed to be beneficial as a medicine and has been promoted as good for many illnesses.

Noni juice is available commercially for this purpose. Noni trees are not related to breadfruit as they are from the family 'Rubiaceae' and breadfruit are one of the 'Moraceae' genus.

Jenny Griffith, Midge Point, Qld.

Terrible termites

Dear 'Earth Garden'.

Thanks to everyone concerned with your wonderful magazine. I'm writing to you to see if you can give me some information regarding termites. I realise you have probably covered this subject but I'm fairly new to your magazine (new but hooked on it completely).

I don't want to use any sort of chemical, but don't want my house to fall down either. Thanks so much.

Marlene Hatzioyiwtzis, Tooradin, Vic.

Dear Marlene,

We have covered termites quite often in previous issues of EG so I hope you find the information we've sent you useful.

— Alan.

Sceptical about Middle East good news

Dear 'Earth Garden',

I found the article on pages 47-49 of EG 121 headlined 'Good news from the Middle East' about permaculture in Jordan, most interesting but I also find it a bit hard to imagine.

1. What did they use for mulch and where did they get it?
2. What trees were used as nurse/pioneer and nitrogen-fixing trees?
3. Your photos and text indicate it is bare saline soil, so I find it hard to believe that the salt problem can be fixed by ordinary people without a lot of financial help from somewhere else. If it was this simple, there wouldn't be any saline land left, particularly in our own country (Australia). I would be most interested to learn more on how this so-called miracle happened.

Jenny Brass, West Kendenup, WA.

Dear Jenny,

This article generated a lot of interest among readers, and we've passed on your letter to the authors, Geoff and Sindhu Lawton. We'll be happy to publish their reply (and perhaps an update) when they get a chance to correspond.

— Alan.

Permaculture near Wagga: it really works

Dear Earth Gardeners,

My wife and daughter and I have been living in Coolamon near Wagga Wagga on our very dry 5 acres for 12 months now. We have utilised the mandala system in Linda Woodrow's book, *The Permaculture Home Garden*. I made a chook dome and we move it every two weeks. We are slowly becoming more self sufficient but the old permaculture is fairly labour intensive especially with my back to basics outlook. It is so fulfilling to be able to go out shopping in the back yard and get eggs, vegies and meat from our sheep which I am happy to say are being raised organically.

Everything tastes better and in some instances very different from what I remember as a kid. My daughter is battling on bravely at the dinner table having been brought up on shop bought vegies. She realises that her seemingly very straight school teacher dad once had very long hair, surfed and may never get the earth out of his system (how I long for the 60s).

I only realised today that for 12 months I haven't used any pesticides or

chemical fertilisers and we have been getting a steady flow of food from our new garden. You will however need an old shuttle cock or squash racquet to get rid of the white cabbage moths when they start to breed. Planting the way Linda recommends does work: the plants seem to be happy in their guilds. Linda also says to raise your own seedlings. The seedlings that I raise here at home on my own recipe of seed raising mix do far far better than the ones from the local nursery. If you are planning on using this system go for it. It does work.

Stuart Woodcock, email: <sjwoodcock@bigpond.com>.

Broom seeds to swap

Hello EG and like-minded people,

I live in South Australia in a heavy frost/dry, hot summer area and have many native broom tree seeds which I would like to swap for other tree, plant, or vegie seeds. I know the broom tree as a fodder tree but there's probably a lot of other common names for it too. The trees I have growing here are up to five metres tall and three metres wide and have thin, light green leaves. They have white flowers that the birds and bees love, which turn into black seed pods full of plump seeds ready for replanting. Most of the brooms I have are self-seeded! So, if anyone likes the sound of the native broom — they make a great thicket or hedge; especially along fences — and has some seeds that would like the conditions where I live, please write to me. Smiles and happiness to everyone.

Kathryn Muxworthy, 27 Hancock Road, Kapunda, SA, 5373.

South Australian plans laid

Dear 'Earth Garden',

Thanks for the inspirational articles. The magazine is great and we get so much out of each issue. Although we live in suburbia, we are looking forward to the day we have a chook tractor and grow more vegies and fruit. Our aim is to build an extension with strawbale so we enjoy articles on owner building. It's great to hear of people caring for the earth and each other in this sadly 'throw away' society. Come on South Aussies: there must be more news out there. The Onkaparinga council has approved (about) six strawbale buildings, so hopefully ours can be one more. Cheers.

Sue, Rebekah, James, Josh and Joslin, Reynella, SA.

The voice of experience

Dear EG readers,

My partner and I have been buying *Earth Garden* on and off since the first issue. When we first got together in 1972, our dream was to

live on the land and be as self-sufficient as possible. We worked our way around Australia and saved enough for a deposit on 80 acres on the Atherton Tablelands in Queensland. Here we had a large vegie garden, chooks, ducks, goats and our first daughter.

Being tropical people we didn't enjoy the cold and sold the property, buying another 80 acres in an isolated place south of Cooktown in 1979. It was love at first sight. Overlooking the Coral Sea, beside a creek, surrounded by mountains with 4WD access, our paradise still remains unspoilt by 'progress'. Starting from scratch, we surveyed the property, made a 1.5 km access road, installed a 900 metre gravity water pipeline, built two 45,000 litre concrete water tanks, a cottage, shed, orchard and vegie garden. Within six months of moving here we were selling vegies in town. We then had our second daughter and life became busier, juggling self-sufficiency, schooling, and earning a living.

I was still making our own clothes, bread, wine, dried fruit and growing nearly all our vegies while my partner was being electrician, plumber, builder, fisherman, gardener, mechanic as well as our being parents.

At some point it all became too much work, so with heavy hearts we moved into town, got jobs, started a business, bought land, built a house and were very unhappy. Both of us got chronic fatigue and couldn't work. We then attended workshops run by shaman and spiritual teacher Tom Cia, overcame our sickness, left town and returned to our beloved land. Our spiritual development now takes priority, our connection to the earth has deepened and she is now our teacher. We still grow fruit and vegies, have a composting toilet, a good solar power system and mill our own timber. We joined WWOOF, seven years ago, and we are grateful for the help we've received and friends we've made from around the world.

We have good communication with animals, and the pigs and scrub hens respect our growing area. It took five years of working on ourselves and the property to open a retreat for personal and spiritual development. However, as our talent for visionary art was revealed, we've changed direction slightly and now hold creative workshops for personal development. As this involves travelling to share the gifts, we are needing someone or a

couple to help with the gardening or maintenance. We are offering a home, organic fruit and vegies, our knowledge and a wonderful lifestyle in return for assistance with gardening and maintenance.

My advice to aspiring Earth Gardeners — don't try to do it all. Do what brings you greatest joy, let go of high standards that you can't possibly maintain. An apprenticeship in wwoofing around Australia will provide knowledge and experience in different ways of gardening, setting up alternative power supplies and lifestyles as well as board and food in exchange for work. For more information you can contact us.

Brolga & Kate Burkitt, PO Box 441, Cooktown, Qld, 4871.

Dog control ideas?

Dear Earth people,

We've made it! We have joyously moved from our beautiful permaculture block in the suburbs to a new start on an ex-emu farm in Ballarat. There's lots of work to do, but the extra space gives us some new opportunities. Our one problem is our confused city dogs. Our two 'boys' keep running off our property. We've tried fixing the fencing (90 cm chicken wire) to give them some idea of boundaries, but Nero is big enough to bulldoze his way through (Great Dane x GSH pointer) and Ferris is light enough to jump over (German shepherd x heeler). They're happily residing in a 6 foot fenced enclosure — much bigger than our old yard — but I'd love to have their company on the farm.

We've been here for six months and still every time they're let out, within 20 minutes they're off, and they don't come back unless we search for them. (The maximum we've waited is two weeks). I would appreciate any ideas anyone is willing to share. Also, if there are any organic gardening clubs, LETS groups, or any permaculturalists who would be willing to offer advice or a tour of their garden in the Ballarat climate, I would be very grateful for the contact. Bright blessings to you all.

Meagan Luc, 117 Tricks Lane, Napoleons, Vic, 3352, email: <aste@primus.com.au>.

Self sufficiency progress

Dear 'Earth Garden' magazine and readers,

Last spring not only saw blooms on the trees, but actual progress in my life of two decades working towards self sufficiency. Also further technical progress: second phone line for internet/fax and more sorting of components for more efficient bicycles

and so on. Having completed a computer servicing course has inspired me to apply to tutor for adult education in DIY repairs — mainly to provide resources, time and a place for locals to do any small to medium jobs without disruption — and assist paying the phone rent.

Andy, Batehaven, NSW.

A pet wallaby?

Hi EG,

I am a huge lover of Australian native fauna and am looking for a new pet, but want to divert from introduced animals. The species I would love to adopt into my family is a swamp wallaby (*Wallabia bicolor*). I am not sure who to contact to buy a wallaby and was hoping that someone may be able to help lead me in the right direction. I do not want an animal that has been taken from the wild and can be released successfully. I would prefer that the animal has been bred as a pet or cannot be released back into their natural habitat for some reason. I am in Victoria and have the correct licence to own a wallaby but just don't know where to find one. I hope that you may be able to aid me in my search. Thank you for your time.

Tanya Minotti, email: <t.minotti@ugrad.unimelb.edu.au>.

Dear Tanya,

I've just returned from helping friends who are wildlife carers with an amazing assortment of 'lame' native animals, including a big blind kangaroo. Perhaps your nearest wildlife shelter might be a place to start.

— Alan.

An Earth Garden path's within reach

Dear folks at EG,

Your mag is inspirational and keeps my dreams and ideas alive. Sometimes it is hard to keep focussed with the hustle and bustle of modern society going on around you. But whenever I pick up your mag it is like retreating into a quiet place — my mind stops buzzing and I clearly see that a sustainable life is far better and within reach.

Lisa Gormley, Bendigo, Vic.

Selling coals to Newcastle?

Dear Alan,

I read your article 'Beyond the Bitumen' in issue 120 about your planted trees growing on your side of the fence, while on the other side the State foresters are trashing them. This seems to equate with what Jack Thompson has said about the trashing of

oldgrowth forest, and logging. A few years ago America was boasting about the large building they have that houses a seed bank of Australian native forest seeds and how one ounce holds millions of seeds. I wonder: will we be buying seeds back at an astronomical price?

Ken Hamilton-Brown, West Busselton, WA.

Island dreaming

Dear all at 'Earth Garden',

Thanks for the reminder and the great mag. We've just bought our first block of land and you are our inspiration. Thanks again.

Kath King, Norfolk Island, NSW.

Connections and chain reactions

Dear Karen,

You have no idea what impact our mag has had on me in the last year. Your promoting the CROEG Easter camp, set a chain of events in motion, and my life has taken a real turn for the better, thanks to the people I've met. Just in case you were interested — thanks, and keep up the good work.

Harry D Calder, Hampton East, Vic.

Food forests and food labels

Dear 'Earth Garden',

Thank you for your wonderful magazine. It's hard to wait for each issue to enjoy the knowledge. Whilst living in suburbia, I have been able to create a small (7 m x 7 m) permaculture food forest out the front of my house. It is now three years old and a joy to behold. I invite any nearby Earth Gardeners to come and have a look. I'll explain how anyone can do something similar at very low cost. My house is in a quiet street and my aim is to leave produce on my front kerbing for the passing healthy walkers to take and enjoy. I'd like to know if anyone can direct me to any recent book or publication so that I might learn how to read food labels of goods from a supermarket.

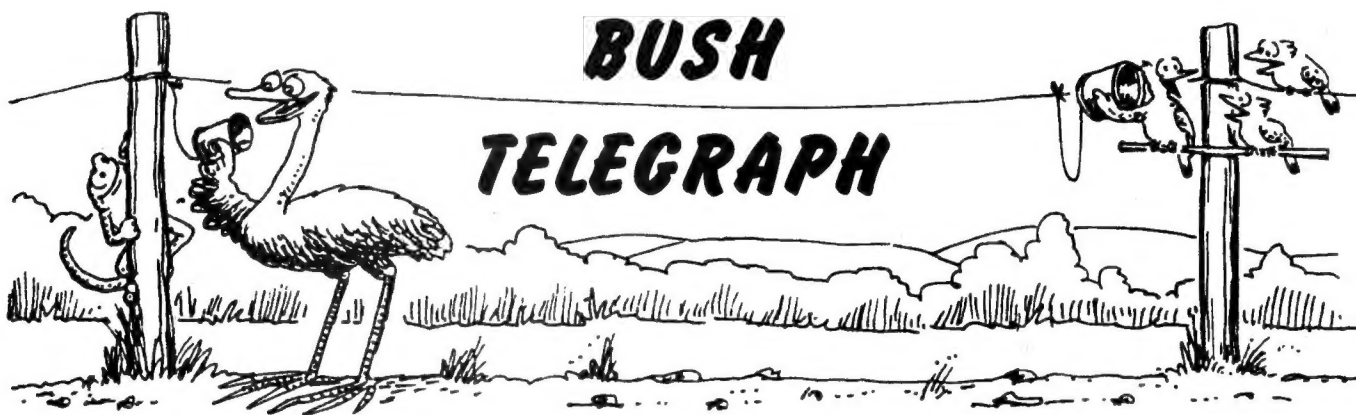
John P Sierakowski, 34 Horizon Avenue, Ashmore, Gold Coast, Qld, 4214.

Dear John,

We used to sell an inexpensive book called 'The Chemical Maze' which helped to decode food labels. You might try the author, Bill Stratham, to get a copy: PO Box 789, Ringwood Vic, 3134, email: <possibility@telstra.com>.

—Karen

**Earth People Write
continues on page 72**



Any news items which may interest Earth Gardeners may be submitted to *Bush Telegraph*. Please send notice of meetings, festivals and gatherings well in advance of the events.

Landclearing Solution In NSW

At the recent State election, NSW Premier Carr moved decisively to end the ongoing damage caused by rampant land clearing in New South Wales. Until now clearing of bushland for agriculture in New South Wales has been second only to Queensland, with an estimated 100,000 hectares (1,000 square kilometres) being bulldozed each year in the State. This clearing rate was appalling given the high degree of clearing which has already occurred in the better watered parts of New South Wales. In the lead up to this year's election Premier Carr's office took advice from conservation groups, farmers and the Wentworth Group of scientists on what was needed to fix clearing in the State. The Premier then announced a new approach to clearing which will end the clearing of mature bushland, protect important areas of regrowth, and provides financial assistance and business certainty for farmers. A taskforce with conservation representatives, farmers and the Wentworth Group, is now sorting through implementation details.

While New South Wales has moved to solve the horrendous problem of landclearing Queensland remains the big rogue landclearing State. Around 500,000 hectares (5,000 square kilometres) of native woodlands and forests are still cleared in Queensland each year. Millions of native animals die each year when their habitat is destroyed. However, after three years of buck passing over who is responsible, the Queensland and Federal governments are now holding serious talks about a funding package and a new set of stronger controls on landclearing. If the governments do act, they are likely to do it before July this year.

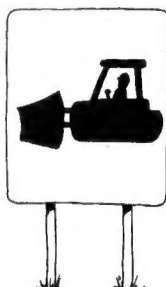
In Queensland and nationally The Wilderness Society and other environment groups are ramping up their landclearing campaigning rapidly to keep the pressure on both governments to solve the landclearing problem. What's needed are stronger regulations to stop largescale clearing of mature bushland, protection of important regrowth bushland, and a package of funding to assist farmers to manage their land for conservation.

Over the next few months it will be vital that there is active public support for stopping the biggest cause of bushland destruction in the nation. Contact Louise at The Wilderness Society Brisbane office for information on how you can help; phone (07) 38461420, or visit 136 Boundary St, West End, or <www.wilderness.org.au>, or attend the Brisbane public meeting or landclearing rally in June.

A state park
in NSW



A state park
in Qld



Massive GE Victory — For Now

Australia's food crops will remain GE free for another year. The decision on 10 May by the Victorian Government to introduce a 12 month moratorium on the commercial release of genetically engineered (GE) canola means that all canola growing States now have some sort of moratorium. This is a

major blow to Monsanto and Bayer and to the global biotech industry. Over 90 per cent of GE plantings are in the US and Argentina alone. The industry desperately needs to expand outside of North America to survive. The EU is hardening its opposition to GE crops, and there is increasing resistance in Africa, Asia and parts of South America. The strong resistance to GE canola here in Australia has international significance and will provide inspiration to the thousands of individuals and communities all over the world who are resisting being part of a genetic experiment and the corporate takeover of our foods. The campaign started in earnest only 11 months ago, when Percy and Louise Schmieser and Tom and Gail Wiley came to Australia for a speaking tour — to share the experience of North American farmers. The struggle is far from over here in Australia but we have some breathing space before Monsanto and Bayer come back again next year.

—*John Hepburn, Greenpeace GE campaigner*

The Big Green Long Weekend

The award-winning Non-conventional Homes Eco Tour takes place over Sunday and Monday of the June long weekend near Taree, 3.5 hours drive north of Sydney. This self-drive tour is presented by the Manning River Centre for Rudolf Steiner Education, and takes people into some of the country's most beautiful and inspiring sustainable homes, to meet and talk to builders and owners. The homes display many non-conventional methods of construction, waste management, energy production, water recycling, permaculture garden techniques and more. It's a chance to find out what these homes feel like, and discover some of the concerns and considerations

involved in considering sustainable housing. The home owners and many experts are on hand to answer your questions and impart some hard earned knowledge. From Bungwahl in the Great Lakes, throughout the beautiful Manning Valley, to Lorne in the north, with food, art, demonstrations and more available in some homes and en route. You can tour for one day or two, and you can also visit the Taree Envirofair and Festival free with your tour ticket, where there will be workshops and seminars on non conventional housing. Envirofair is on Saturday 7 June. The homes tour is an award-winning event attended by thousands of people from around the country. You must purchase a ticket and 'tour guide book' to participate in the homes tour, available from various outlets or by post. Visit the tour website <www.coastal-events.com.au> to see images and download a booking form, or telephone (02) 9990 0091 to receive a brochure in the mail.

Seed Savers To Ecuador

Michel Fanton, co-founder of the Byron Bay-based Seed Savers' Network, recently spent two and a half weeks in Ecuador conducting workshops and helping to establish an Andean seed saving network. He conducted five training courses in Ecuador and southern Columbia and met with a number of government and non-government organisations on his trip. Michel had been invited by 'Red de Guardianes de Semillas del Ecuador' (Network of Seed Guardians). This newly-formed network consists of a group of individuals and organisations that aim to preserve Andean food crops. The Seed Savers' Network can be contacted at PO Box 975 Byron Bay, NSW, 2481, phone (02) 6685 7560, web: <www.seedsavers.net>.

High Income Couples Stressed

A new study claims higher income households in Australia are more likely to experience stress caused by time pressures than lower income families. It found stresses related to time are most common in higher income families, while lower income families are more likely to be stressed about money. Researchers used data from four countries. Study author, Daniel Hamermesh from the University of Texas, says only 15 per cent of men and ten per cent of women claimed to rarely be affected by time pressures. "In Australia about half the people reported themselves as being always or often stressed. This is more true among women than men," Mr Hamermesh said.

Executives Arm-Wrestle Dispute

A AUS\$180,000 dispute between two New Zealand companies has been resolved in an unusual out-of-court settlement — a best-of-three arm-wrestling match. The chief executives of the small telecommunications companies — Teamtalk Ltd and MCS Digital Ltd — squared off after their firms were unable to reach an agreement on access to a mobile radio network. The dispute had already been the subject of a complaint with competition regulators and was heading for the courts. "Sure, losing hurts but not nearly as much as paying lawyers' bills," defeated TeamTalk Chief Executive, David Ware, said.



Eating Organics Cuts Kids' Pesticide Loads

A University of Washington study which analysed pesticide breakdown products (metabolites) in pre-school aged children has found that children eating organic fruits and vegetables had concentrations of pesticide metabolites six times lower than children eating conventional produce. The study compared metabolite concentrations of organophosphorus (OP) pesticides (a class of insecticides that disrupt the nervous system) in the urine of 39 urban and suburban children aged two to four years. The researchers' findings point to a relatively simple way for parents to reduce their children's chemical loads: serve organic produce. An earlier study looked at pesticide metabolites in the urine of 96 urban and suburban children and found OP pesticides in the urine of all children but one. The parents of the child with no pesticide metabolites reported buying exclusively organic produce.

The children's urine was tested for five metabolites of OP pesticides which are registered in the USA and frequently applied to food crops. The researchers found median concentrations of OP metabolites six times lower in the children with organic diets.

Average concentrations for the organic group were actually nine times lower, suggesting that some children eating conventional produce had much higher concentrations of OP metabolites in their systems. The study also determined that some children were at risk for consuming more OP pesticides than the US Environmental Protection Agency (EPA) considers 'safe' as a daily dose. The researchers concluded that organic fruits and vegetables can reduce exposure levels from above to below EPA chronic reference doses, "thereby shifting exposures from a range of uncertain risk to a range of negligible risk".

Burning A National Disgrace

Australia's biggest tree, dubbed 'El Grande', which has been badly burned by Forestry Tasmania in a regeneration burn which got out of control, is a national disgrace, Greens Senator Bob Brown said on 1 May. "The responsibility is shared by Tasmanian ALP Premier Jim Bacon and Prime Minister John Howard who both had the power to protect this tree but did not," Senator Brown said. "This fire 'regeneration burn' is akin to blasting at a Sydney demolition site and saying, 'Whoops, we got the Opera House as well'. The destruction of Tasmania's oldgrowth forests continues at an awesome rate while governments sit and fiddle." The 350 year tree is in a logging coupe in the Derwent Valley 100 km northwest of Hobart. It has a 19 m girth and is 79 metres tall.

New England Living History Group

Many *Earth Garden* readers will be interested in the activities of the New England Colonial Living History Group (NECLHG). Through living history and experimental archaeology the group learns and practises many 18th century colonial living skills and wilderness survival skills. The group has regular gatherings, treks and camps. The group's main area and period of interest is the mid 18th century in the New World. A large variety of skills and crafts teach self-reliance, self-sufficiency and wilderness survival. Everything and anything can be learnt with practices from tomahawk throwing to finger weaving, flint and steel fire lighting, trail foods and preparation, hornsmithing and much, much more. Treks and camps are designed to test skills and equipment. Members can also camp at a drive-in camp area on regular gathering weekends. Members share research, show new pieces of period equipment made or acquired, and learn or practise various

skills. Meetings are informal and members can learn and practise whatever they want, or they can just sit and chat and enjoy a cup of tea and some period style foods. There is no membership fee to be paid to the NECLHG, just to The Queensland Living History Federation, who provide insurance cover. For more information write to: NECLHG, c/- Keith Burgess, MSF 2007, Armidale, 2350, NSW, enclosing a SSAE with all enquiries.

Organic Bananas A Big Hit

Monkeys at Copenhagen Zoo are going ape over organic bananas and other fruits, rejecting traditional foods left in their cages, zookeepers say. Keeper, Niels Melchiorson, said: "The tapirs and chimpanzees are choosing organically grown bananas over the others. Maybe they are able to instinctively tell the difference and their choice is not at all random. If we give them organic and traditional bananas, they systematically choose the organic bananas, which they eat with the skin on. But they peel the traditional bananas before eating them," he added. Copenhagen Zoo, which hopes to be awarded a 'Green label' as an environmental zoo, began feeding its animals at least ten per cent organic products last year.

It's getting out of hand... now the lions are demanding free-range chicken, biodynamic beef and alkaline, antioxidant Biowater!



National Organic Conference

The Organic Federation of Australia conference will be held in Adelaide on 2 and 3 October this year. It will bring together members of the organic, scientific, business and consumer communities to explore sustainability issues for development. Researchers from fields of agriculture, energy, ecology, food and society will present papers and lead discussions and workshops. The conference will provide an ideal opportunity for all sectors of the Australian organic industry to network, seek out sources of produce, seek out buyers for products and gauge consumer opinion on a range of issues. Delegates will come from growers,

processors, government agencies, wholesalers, importers and exporters, inspectors, universities and the general public. Space will be dedicated to displays from all sectors of the industry. To attend the OFA 2003 contact the OFA 2003 secretariat by post at PO Box 768, Stirling, SA, 5152, or via the OFA website at: <www.ofa.org.au>. For further information email Cat Mills at <ofaconf@nasaa.com.au>.

Welcome To Camp Wombat

The entire population of critically endangered northern hairy-nosed wombats will soon be in captivity. It is the first time in Australia — perhaps the world — that every member of a species of mammal has been fenced in to try to save it from attack by predators. Only 110 northern hairy-nosed wombats are left and, in the last few years, as many as ten per cent of the 40-kilogram, one-metre long marsupials have been savaged and killed by dingoes. The northern hairy-nosed is the biggest and least known of Australia's three wombat species, which include the commons that live on the east coast of the continent and the southern hairy-nosed, of South Australia. The northerns all live in a tiny, arid patch of scrub in central Queensland, called Epping Forest National Park. Although an attempt was made to establish a population in a zoo, it failed. After years of struggle the conservation team has decided to build a 20 kilometre, 1.9 metre-high fence around all of the known wombat habitat inside the national park. By November last year, about 2500 hectares was within the perimeter of the fence, built to similar specifications as a deer fence. The Queensland Government provided \$250,000 for the project and the Commonwealth dispatched a Green Corps team to build it. The scientist in charge, Dr Alan Horsup, estimates that, including the labour, the total cost will be about \$400,000.

A dogger was employed to shoot any wild dogs inside the national park and poison baits will also be set, both underground and off the fence. Experiments are also underway to try to drought-proof the Epping Forest population by introducing specially designed 'wombat water troughs' and supplementary foods. So far the wombats have shown no interest in introduced food or water.

"My dream," Dr Horsup said, "is to be able to throw hay bales off the back of the truck as I drive down the hairy-nosed highway. Then we could keep them breeding all year." The main idea behind the new structure is that it will buy some time for the

species while permanent solutions are worked out. Dr Horsup's team is trying to identify other areas where the northern species could one day be relocated. The species once inhabited a band of semi-arid, inland Australia stretching from central Queensland to Deniliquin near the Victorian border.

"I just feel we have a responsibility to save this species," he said. "There's only been one other megafaunal extinction in Australia in the last 200 years and that's the Tasmanian Tiger."

—James Woodford, 'Sydney Morning Herald'



Peter Pedals In National Museum

Long-time *Earth Garden* contributor and co-founder of the Rainbow Power Company, Peter Pedals, has been included since late May in a new permanent exhibition at the National Museum of Australia in Canberra. He has been recognised for his role in promoting interest in sustainable energy. Peter earned his name advocating the use of pedal power as both an energy source and a way of keeping fit, and has contributed articles to *Earth Garden* since the 1980s. Peter rode across Australia with great devotion, running a sound system and a blender on his pedal power. He co-founded Nimbin's Rainbow Power Company, dedicated to selling renewable energy products and projects, and now the Museum has included him in a new exhibition at the 'Eternity' gallery.

'Eternity' is an exciting new style of exhibition which brings to life the personal stories of 50 ordinary and extraordinary Australians, all linked by the exhibition's signature piece created by Arthur Stace — the street-dweller who chalked the word 'Eternity' on the pavements of Sydney. In a radical departure from the usual categories of museums, 'Eternity' is based on ten themes that speak directly to people's real experiences. The new, lakeside National Museum of Australia is open every day (except Christmas Day) from 9:00 to 5:00.

Make Your Own Ink

Graeme's enthusiasm for an ancient aspect of self-sufficiency makes for a fun and economical winter project.

by **Graeme Loffel**

Highton, Victoria.

MANY artists, scribes and calligraphers will enjoy making their own superior permanent black writing or drawing ink — it's an easy, cheap and rewarding project. There are two methods of preparing ink given in classical and medieval recipes.

1. Mixing natural gums or glue and water with lamp-black or soot. This was the basic pigment of ink both in China and ancient Egypt and is still used to make 'Indian ink' and Chinese ink-sticks. The carbon in lamp-black is chemically inert, not bleached or otherwise affected by sunlight, and is the most permanent of all inks. Perfectly legible examples dating back as far as 2500 BC exist today.

2. Preparations of tannin and iron salts: these are generally stable and for all practical purposes quite permanent. Such inks may eventually tend to fade to that brown tint familiar in old Western manuscripts.

One of the earliest existing documents written with iron-tannin ink is an Egyptian parchment from the 7th century AD. This was the most commonly used ink up to the early 19th century when synthetic dyes became available. No ink made with dyes, even those of today, can match the iron-tannin inks for density and permanence.

Countless recipes for iron-tannin inks have been published in English, European and American references. For reasons of economy and self-sufficiency monasteries and many households prepared their own ink. Almost all the recipes specify as a basic ingredient tannin rich oak galls which were boiled or steeped in water to extract the tannin then combined with iron sulphate (the old names were green copperas or green vitriol). Iron salts combined in solution with tannin form ferrous tannate which, when oxidised by contact with the air, becomes ferric tannate which is black.

Since oak galls, once an item of commerce, are no longer available — certainly not in 21st century Australia — an alternative source of tannin has to be found. The logical source in this country is wattle bark, long used for tanning. The barks of many varieties of wattle (acacias), as well as other trees such as sheoak and mangrove, are rich in tannins. The fresh green galls, caused by gall-fly

infestation, which are sometimes found on wattle trees (usually on the sallow wattle, *Acacia longifolia*), are also rich enough in tannin for ink-making. The bark of the common golden wattle, *Acacia pycnantha*, is however the most readily available source in most parts of the country.

In iron-tannin inks a certain proportion of gum is required for two reasons: to provide an appropriate level of viscosity, and to seal the ink on the paper (with no gum content the ink may dry slightly powdery on the surface of the paper and be liable to smudging). The old recipes all specified gum arabic (gum acacia), still available commercially but not readily found now in retail outlets. The wattle tree can again come to the rescue by providing the gum.

Wattle Bark Ink

Ingredients

Wattle bark: collect dry bark peeling off recently dead branches and crumble or cut up into small pieces with secateurs. Thinner bark from smaller branches is easier to cut up.

Wattle gum: collect a few lumps of the gum found exuding from injuries to the trunk. The gum can be used immediately but is easier to store, measure and dissolve if left to dry hard and then crushed into a coarse powder in a mortar.

Iron sulphate: this is cheap and readily available at any nursery or garden supplies outlet. It looks like pale green sugar.

Phenol (carbolic acid): to prevent development of mould or fungus in the finished ink over long-term storage, a few drops of a powerful antibacterial agent are recommended. Phenol was generally used. Although largely superseded these days, phenol is still available from chemical supply companies either in crystal form or as an 88 per cent solution. Take care when handling phenol as it is very poisonous and highly caustic in a concentrated form. Some pharmacies still carry it or if not may be able to recommend a substitute. Be sure that any antibacterial substitute does not have a detergent component which will spoil the consistency of the ink.

Ace Chemical Company (119a Mooringa Avenue, Camden Park, SA, 5038, phone (08) 8376 0844, fax (08) 8295 9563), stock a comprehensive range of chemicals and will promptly and reliably mail order small quantities.



The barks of many varieties of acacias are rich in tannins and can make excellent ink.

The additional cost of postage or freight can, however, make buying chemicals this way expensive.

The recipe

To make about 500 ml of ink assemble the following ingredients.

- 250g wattle bark, chopped small
- 5 teaspoons wattle gum
- 5 teaspoons iron sulphate
- 20 drops phenol 88 per cent solution.

Place the wattle bark in a saucepan, cover with water and boil for 15 minutes. Strain off the liquid and repeat the process three more times. Combine the four extractions and reduce by boiling down to 600 ml of strong, dark brown decoction. Halfway through the boiling down the gum may be added, stirring frequently until it has completely dissolved. Remove from the heat and add the iron sulphate, stirring until dissolved. Strain through a piece of fine muslin cloth set in a sieve. The ink may be helped through by rubbing with a teaspoon, if necessary. Finally, when the ink has cooled, add the phenol. Store in a glass bottle with a good screw top lid. The ink may be used immediately.

A small amount of fine solid matter in the ink is not necessarily undesirable as many calligraphers recommend an ink with a 'gritty' rather than a sticky or slimy consistency. However you may prefer to let it stand undisturbed for a week or two to allow any sediment to settle and

congeal on the bottom and then decant it into a fresh bottle leaving behind the sediment resulting in a more refined final product.

A characteristic of all iron-tannin inks is that they write pale and develop to full black only after exposure to oxygen in the atmosphere. This ink is suitable for use only with 'dip' pens: quill, reed or steel nib. It is not suitable for fountain pens, which require a very thin ink, usually containing a wetting agent, so that it will not clog the capillaries that feed the nib. Take care not to splash the ink on your clothing: the stains will be devastatingly permanent.



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Living In Fowl Times

by Alanna Moore

From Transylvanian Naked Necks to Araucanas — Alanna welcomes reader' queries about living with chooks. Write to *Earth Garden*, PO Box 2 Trentham, Vic, 3458 or email <info@earthgarden.com.au>.



Hello fowl lovers,

It's lovely to have a few cooler months and see a bit of rain and greenery around, after the savage season of drought and fires that much of Australia has seen earlier in the year.

Chooks are usually quite good at keeping themselves warm, but you might need to spread a few biscuits of straw over the roof of their roosting area, to keep the frosts at bay. Then again, why not harness their body heat to keep your pot plants warm? I saw a wonderful combination fowl house and hot house nursery at a permaculture farm in New Zealand recently.

It was in one building divided in half, the nursery side facing the sunny north. The south facing half with the chooks had an earth roof to keep them warm in winter. A wire mesh dividing wall in the middle kept the birds out of

the plants, which were able to benefit from the birds' warmth and CO₂ emissions.

Just another of the chooks' many useful attributes! What with their 'tractoring' ability (scratching the ground), their fabulously fertilising manure and tasty eggs — no wonder the noble chook is the ideal livestock in a permaculture-designed small farm or garden.

Finding Araucanas

Dear Alanna,

We live in the Blue Mountains in New South Wales and I want to source some Araucana chooks. I haven't been able to trace any yet. Do you know where I could get some? Thanks . . . love your articles, Suzanne.



You can't really have a Maremma as a cuddly pet but on a large chook farm, such as this one, they could be usefully employed and earn their keep.

Dear Suzanne,

The Araucana fowl is a native of South America and is actually a different species from the old barnyard bird *Gallus gallus*. Before they were crossed with birds that the Spanish brought, the original Araucana had fleshy 'ear-rings' by its ears, giving it its Latin name of *Gallus auris*, and it was probably rumpless: it had no tail feathers! I have seen a throwback bird that was rumpless but none have the earrings anymore, thanks to cross breeding.

The Araucana's main attribute, however, is that it earns its nickname of 'Easter egg chook' because of the unusual egg shell colour — usually a lovely pale blue. The colour goes all the way through the shell and the genes for it are dominant over other egg shell colours. That means if you cross an Araucana with another breed you may well still get the blue eggs.

I used to keep several strains of Araucana and would delight in selling their 'rainbow eggs' of many hues, with blue, green, aqua, olive and pink. These birds are also good foragers and tough survivors, and come in many pretty colours. My favourites were the lavenders with their soft bluey-lilac hues.

The Araucana blood has been fairly diluted over time but poultry breeding standards can give us a few clues. To be sure what you are buying is in fact truly an Araucana, check whether it has only a small pea comb, as this is linked to the blue egg gene. If it hasn't got one, it's a cross breed.

To find a breeder near to you I would recommend getting hold of the latest copy of the *Poultry Breeders Directory* (Night Owl Publications). They are worth hunting for. Good luck!

Scaley mite treatment

Hi Alanna,

I have a chook with scaley mite and have been advised to dip her feet in kerosene to suffocate them. The rest of the flock do not seem to have it. I was wondering if there was something that this one (the scaley mite) has missing from her system that I could give her to strengthen



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'No Frills Chest Rub' applied over a few days should see the end of scaley mites on chooks' legs.

against any recurrence.

Regards, Caroline Ceylon.

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Well the mites will definitely spread unless you deal with them promptly. Some types of fowl are more susceptible to them than others — the Silky for one. You can easily tell if birds are affected by looking closely at their legs. If there is white crusty material coating them, that is a by-product of the mite. When it gets really thick they have difficulty walking and can go quite lame. Imagine the suffering with all the itchiness too!

When an infestation gets bad, getting rid of it can be pretty messy. You need to soak the birds' legs in warm water and then gently scrub away the crusty bits. It'll often be red raw underneath.

Just keeping birds still in the soaking stage presents tactical difficulties — have a friend handy to help. Wait until the legs have healed up a bit before applying any insecticide. If legs aren't too crusty then you can skip the scrubbing bit. To kill off the mites I prefer the simple method of rubbing in essential oils (like eucalyptus) in a vaseline base (which smothers them) and you can buy such a thing ready mixed in the form of 'Vicks Vaporub' or 'No Frills Chest Rub'. A few applications over the days should see the end of these nasty little pests. Kerosene will work, as well as sump oil — another old 'remedy' — but something less toxic, as suggested, is preferable.

Maremma dogs and chooks

Dear Alanna,

I've heard the Maremma Italian breed of dog bonds with the chook flock. Can you please verify this and send any other information you have on this breed? Kind regards, Hillary King.

Well Hilary,

Do you have a big flock that cannot easily be protected, such as by electric fencing? A Maremma dog can be effective but there's a large expense in buying one, plus then it has to be fed and cared for. Some Maremmas will bond so closely to the flock that they won't be happy to see people among their charges and could get stroppy, although they are rarely aggressive. They are totally independent and can be difficult to contain if you have to lock them up for some reason.

The Maremma will do a great job of scaring off foxes but this could be at the expense of your sleep, as they are very vocal and might spend the whole night barking. They may run off chasing foxes and leave the fort unguarded. So although they are beautiful looking creatures you couldn't really have a Maremma as a cuddly pet and also expect it to do its job. But on a large, commercial, free range, chook farm they could be usefully employed and earn their keep.



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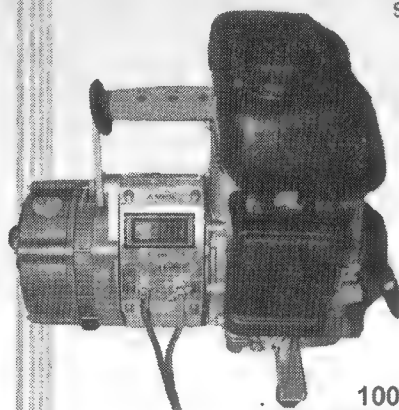
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by Dr Barry Traill

Chiltern, Victoria.



Want to know how you can get your local wildlife to love you? Living harmoniously with Nature means learning how to encourage wildlife and their habitat. *Earth Garden* encourages any reader to contact our very own specialist, Dr Barry Traill. Write to *Earth Garden*, PO Box 2, Trentham, Victoria, 3458, fax (03) 5424 1743 or e-mail <info@earthgarden.com.au>.

Goannas, bats and an alien worm

Hi EG folk and Dr Baz,

I have three wildlife questions that I hope you might be able to help with. We had a very Attenborough holiday over the Chrissy New Year period in the Avon Wilderness, Gippsland. The flies kept us aerobically fit, and the dust reminded us that we were in the middle of a dry summer in Australia. The (ding dong) Avon River was still flowing well. The water was clean and clear and a delightful antidote to the flies and the dust. It's box ironbark country and our camp had a good population of sugar gliders and possums. The Boobook owls cut laps of the clearing at dusk and the lace monitors (goannas) were in fine form . . . here's where my inquiry begins.

There were two goannas that prowled the camp. They were the semi-domesticated campsite scavenger variety. If they saw us moving, they'd bolt up the nearest tree but if we stayed still they'd wander in and around us. One rested its man-sized clawed hand on my foot as it walked between my legs. It licked my heel and turned its head on the side, staring right at me before dragging itself off into the bush.

The two goannas had a strange relationship. They would enter the camp at about the same time every second or third day from different directions. The first time they met, they fought for 15 minutes. Well, it looked like they were fighting. The girls reckoned it was a mating dance because there wasn't much bloodshed but I guessed it was territorial. They could easily tear each other to pieces with their bone-cracking jaws and claws but they seemed to be holding back. Almost play-fighting. Do they do that?

My second question is about a worm sort of thing we've found in the Avon and in the creek near home (Yinnar South, in the Strzeleckis, also in Gippsland but temperate rainforest). The one on the Avon was approxi-

mately 300 mm long and about 2 mm thick (the others we've seen were about the same size). It looks like a length of burnished copper wire (about 4 gauge!) and is quite hard to touch — like uncooked spaghetti. It has a dot for a head on one end though no obvious eyes and propels itself through the water with the most mesmerising reptilian sine-wave sort of motion (moving at about 1 Hz) just below the surface. Any guesses as to what this beautiful creature might be?

And finally, a question on some wildlife that's sort of a bit of a pest . . . in German, fledermaus. Literally translated, flying mouse. Cute name for a cute creature, I reckon. Bats. Possibly bent-winged bats. There's a colony in mum and dad's roof that numbers around 40. They're beautiful creatures and I know they might carry lyssavirus (which is kind of like rabies) or hendra or menangle that are transferable to humans if they bite you so we always use gloves and nets during the inevitable rescue missions inside. They are a low-grade annoyance. Mum gets a bit freaked out by them when they're inside. They poo on the car and make a lot of squeaking and squawking that is audible through the roof. One of our friends suggested blocking the entry to their roost. Dad said he'd rather live with them if blocking the hole meant they'd perish. And what about the young ones? When do they breed and what would you do if they were in your house? Thanks for your great contributions to a fantastic magazine.

Scot Gardner, Yinnar South, Victoria.

Dear Scot,

I think I've camped at the same spot on the Avon — it's very very lovely (though such a crappy name for an Australian river; as well as having been grabbed by a pushy cosmetic company the name comes from a no doubt boggy,

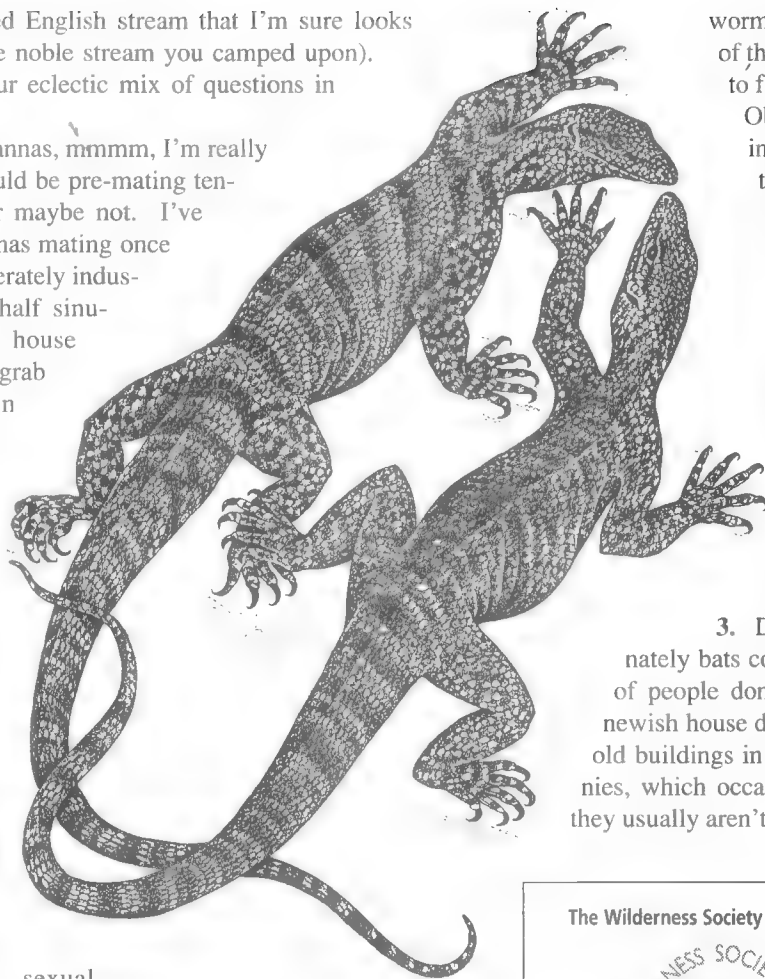
cow-pat infested English stream that I'm sure looks nothing like the noble stream you camped upon). But to take your eclectic mix of questions in order.

1. Sparring goannas, mmmm, I'm really not sure. It could be pre-mating tension/play — or maybe not. I've only seen goannas mating once and it was moderately industrial — some half sinuous/half rough house foreplay, then grab female neck in jaws, twist tail around...

However, if you saw more sparring over a period it may simply be two goannas trying to keep the other one from a favoured site full of chop bones. Or of course both — sexual tension and chop-bone tension working simultaneously shouldn't be ruled out.

2. Horsehair worms! A truly extraordinary beast to look at and they have an extraordinary lifestyle. As you note they look just like a piece of coiled wire, except it's alive. The other name for them is Gordian worm, named after the Gordian knot (I can't remember the story exactly but some BC Mediterranean king made a complex knot and said whoever could undo it will rule the known world. An Alexandrian legend is that Alexander of Macedon whipped out his sword and cut it in half before then going on to rule a significant chunk of said known world for a little while — before he karked it at a young age).

You are very observant to find them as they are not often seen. What you saw was the adult worm. The larvae are parasites which grow inside other invertebrates — insects, yabbies and so on. The cycle starts when the adult worm drops millions of eggs onto damp ground or into a pond where the target host might live. If the target host accidentally eats an egg it hatches and burrows out of the host intestine into the host's body and forms a growing cyst, which eventually mature into a coiled horsehair



Goanna mating can be moderately industrial.

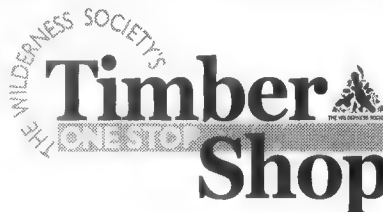
worm. The horsehair worm burrows out of the host when mature and writhes off to find a mate to make more eggs.

Observant fans of Sigourney Weaver in *Alien* and *Aliens* will realise from this that they didn't invent the life history of the beastie in these excellent movies, they just copied it from some of nature's little gems like the horsehair worm.

Horsehair worms are very ancient — one reference suggested they arose around 500 million years ago. There isn't anything much else like them and they are classified in their own phylum, which means that they have no close relatives. They really are unique.

3. Der Fledermaus — bats! Unfortunately bats cop a really bad press often and lots of people don't like them. It's a pity but our newish house doesn't attract any bats. Lots of the old buildings in Chiltern town here have big colonies, which occasionally seems to bug people, but they usually aren't a major problem. On the plus side

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of course bats are extremely cute and eat very large numbers of insects, including pest ones.

I had a chat about your problem with my friend, bat expert Natasha Schedvin. Natasha has studied bats for many years and has her own pet bat whom she loves dearly. She gave the following sage advice. Yes, you need to be a bit careful with handling them (as you have been) because there is a (very) small chance you could be scratched or bitten by a lyssavirus or other virus ridden bat. Note that it has to be direct contact from an infected bat so people don't have to worry about getting infected from just having them in the roof or from bat turds on the car bonnet.

It was a bit unclear how they come to be *inside* your folks' house at times. If they are flying in occasionally try simply turning off the light (which they may try to land and hide from) and open doors and windows to let them find their way out using their radar. If you decide that you would like them out of the roof, and they only have one or a few entrances Natasha suggests the following: gradually close all exits till only one is left, then stick or tack smooth plastic around this to leave only the hole. This allows them to fly in or out still but they won't be able to land to scramble into the hole. Then put a flap of plastic over the hole (maybe like the lid of an ice cream container) tacked on above so they can squeeze out but won't be able to fly back in.

Obviously this is not good to do this when they might have bat babies left inside — which they are likely to in the late spring and summer (depending on your species). Autumn (February to May) is a good time to do this because the bats are still active and any young have grown up. You could do it in winter but the bats are likely to be torpid and rarely coming out — if they are still inside your roof then.

If the roof is such that it is impossible to close entrances (and the bats will need only narrow cracks to squeeze into) then your folks may just have to live with them. Or as a last resort try some special artificial bat boxes, and put these around the outside of the house.

Designs for these can be obtained from excellent Land for Wildlife Notes obtainable from your nearest Department of Sustainability and Environment Office. Hope this helps. Cheers, Barry.

Pesky lizards?

Hi Barry,

My name is Pat and I was wondering if you could help me. I have a garden full of lizards and my plants are being eaten. The lizards are brown and a few cm long. Could it be the lizards eating them and if so how do I get rid of them? Thanks, Pat, Mascot, NSW.

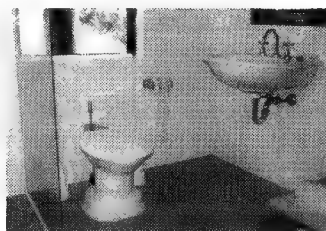
Dear Pat,

Probably quite the opposite! The lizards are almost certainly 'garden skinks' or a close relative. They are completely insectivorous — that is, they'll only eat live insects and spiders. They'll help control insect pests and definitely won't eat your plants. If you are losing a lot of plants (if they are being obviously chewed) I'd look for culprits such as snails, slugs, caterpillars, maybe slaters or earwigs.

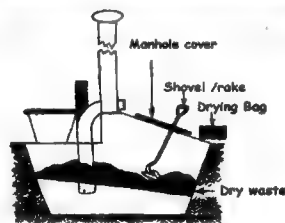
With a couple of minor exceptions, which won't be in suburban gardens, all Australian lizards (and frogs and snakes) are insectivorous or carnivorous — they eat insects or larger animals.

Cheers, Barry.

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Drought busting and winter onions

Things get a bit manic when a drought breaks: a blacktailed wallaby paddling ecstatically in the newly flowing creek, an eastern spinebill dipping its beak into the young blue sage flowers, then perching on my shoulder to sing about it in a true Walt Disney moment. Life is good for eastern spinebills at the moment. And I agree.

Modern city life evens out the good and bad bits. It's rarely really uncomfortable; but equally there are rarely those moments of sheer exultation either.

No, I don't want to live through another major drought. If I had my druthers, I'd have two hours of gentle rain every night between 10 and 12 pm, so I could go to sleep with rain on the roof and wake up to washed leaves and silver drips on the fences, with maybe one good storm a season just for the fun of it.

But I still don't want to live in a tidy world of reticulated water and air conditioning. I want reality. And that moment of extraordinary happiness when you realise it's not just raining, it's *STILL* raining, and the weeks of glory afterwards when yet another dead looking tree shoots new leaves, or a rare orchid leaps up from damp soil.

"Pity this poor monster, mankind, not
Progress is a comfortable disease . . ."
(e e cummings).

And we're trapped in a world that is quite comfortable, thank you, with interesting enough shows on TV and food that sustains and is vaguely pleasant. But there is no joy, damn it, no feeling of utter rejoicing and beauty and plenitude that you can get even from bare brown hills with their own skeletal beauty, but never from a show on TV.

How can we have a society that prides itself on being able to taste the bouquets of various wines, but doesn't appreciate the taste of water, fresh apples, or lemons that don't smell ever so faintly of rot? At the moment everything is so

stunningly, incredibly beautiful — literally incredible — as though humans aren't quite capable of absorbing so much beauty.

Surviving drought

I've faced three droughts as an adult, and this one was a doozie — only two falls of rain in twelve months, with a total of 62 millimetres — there are many deserts that get more than that! Even though I thought I'd planned well for drought, with enough water stored, a heavily mulched garden and mostly drought resistant plants, it was still, well, difficult at the end.

There's no point recycling greywater if you don't have the water to turn grey! And the neighbour's cattle ate the mulch and by the end we were supporting I don't know how many wombats, wallabies, roos and feral goats (okay, as many of the goats as possible got the chop). But in the last twelve months I had to face the fact that if I stopped the animals eating my garden and trees they'd die — and there was a good chance the plants would die in any case. And if we used the last of our stored water instead of leaving it for the animals that would kill them too.

We simply had no right to take the last of this area's water for ourselves — well, not till it came to the point that we too were dying of thirst and starvation. (Washing in half a bucket of water a day is not exactly hardship compared to what the animals were facing.)

So what have I learnt from this drought?

It's reinforced my belief that the climate is changing. There have been seasons with as little rain before, but not with months of the high, hot, raging winds and weeks over 40° C.

It's reinforced my belief that around here, anyway, there are more humans than the land can comfortably support, who plant gardens in wet or 'normal' years and expect them to continue. To my horror there are plans for even closer development on the creek above us and there literally

isn't enough water most years. The water the humans take means the animals die. People who would never shoot a wombat or torture a kangaroo by letting it die of thirst do so unwittingly by pumping water from diminishing streams.

I've learnt, yet again, that somehow the needs of cattle are regarded as sacrosanct: the loss of a large part of our garden and orchards to a neighbour's cattle was regarded as trivial, and any protests that more native animals starved because of what the cattle ate were simply a joke. And starving cattle, dying of thirst, will push down any fence.

But I've also realised that gardens and orchards survive drought better than their owners. Now it's finally rained we've actually lost very little — the lush herbs, a few roses and salvias, most of the bottlebrushes, some proteas, all the waratahs, two grevilleas and a few other natives — it is a real myth that native plants are drought tolerant. They require less water than most exotics. But they need a little often, as they are shallow rooted — their survival strategies are often flowering, seeding and dying, so in a year or five when it rains again their progeny can grow.

But many plants go into dry weather dormancy, including citrus — trees that only had a few yellow drooping leaves are shooting again; an avocado that was leafless for six months is showing green leaves, the tree ferns are sprouting.

As for self-sufficiency in a drought, most fruit trees lost their crop very early, including all the apples and pears. (The wombats were quite fat for a while crunching fallen baby apples.)

But even in the past two dry years — and even now, afterwards — we'd still be eating reasonably well if we'd had to survive on what we harvest here.

As I write this there are avocados, kiwi fruit, lemons, limes, a few valencia oranges and a few more sevilles, boxes of white, yellow and chocolate sapotes (the bastards didn't even seem to notice there was drought), pecans, about ten chestnuts from three trees, a few macadamias, enormous quantities of perennial chillies, olives, walnuts, calamondins, many varieties of lillipilly — though they only began to swell into ripeness after it rained — kaffir plums, strawberry guavas, passionfruit from vines that were almost leafless a month ago, and pomegranates. Well, yeah, certainly enough to keep us from boredom and starvation.

Mostly the older the trees were, and the deeper their roots, the less affected they were by the drought — or by gale force winds of 47° C for days that singed the avocado leaves. Oh, and the dust storms and the layer of ash from the fires...

As for vegies, the mini capsicum kept fruiting in ground so hard and dry you couldn't stick a fork in it; the garlic chives refused to notice there was a drought at all, the

sweet corn grew finger size cobs but the six maize varieties just kept on growing — we got a fantastic harvest of maize (I planted the seeds about 15 cm deep — an old drought strategy that works). And so the watermelon vine kept growing in dry soil, even while the zucchini died and the wallabies ate the rhubarb leaves and tomato bushes and the bower birds finished off the beans and passionfruit leaves. (I suspect that kept the passionfruit alive — seriously — with less leaf area they transpire less water. Passionfruit are not especially drought hardy at all.)

I'd also like to give a special thank you to my freckled lettuce, all of whom were eaten by the bower birds down to their roots — and all of whom grew again, great rabbit ear like leaves within three days of rain, so

now we are eating lettuce, thank you. And the silver beet and perennial leeks (the annuals all carked it) and perennial parsnips and crinkled parsley (the flat leafed died). And the warrigal spinach — the Australian and NZ native, that grew to literally two square metres from a crevice in the paving with no water whatsoever.

Fire retardant plants

I've just spent lunchtime muttering about plans to increase 'control burning' after the last two years' fires. I think the word that got me was 'control'. Humans have a fetish with control — we like to fool ourselves we can control a lot of things. Including fire. Some areas around here have been burnt five times in the past two years — the fire just kept passing

over it and burning it again. Unless the area had been burnt within the previous three weeks the past burning had little or no effect. And where the fires were pushed by gale force winds from hell, 'control' burning the season before would have been a joke.

I'm NOT saying don't control burn at all. But forget about the term 'control burn'. It doesn't give control and it's often out of control too. Hazard reduction is a more honest term.

Maybe it's time we stopped trying to modify the bush and modified the way we live next to it instead. I've also been muttering about statements that "no house could survive the fires we've had this year".

Except some houses did. And of COURSE you can build a fire-proof house. It may have to be 20 metres underground — okay you needn't go that far — but it can be done. A good garden or shelter belt CAN slow down a fire; a house in a good garden may be more fire resistant than one with bare earth around it. BUT — the plants chosen need to be the correct ones, grown in the correct way.

Why this works: the intensity of the fire around your home depends on two main things — the amount of fuel and



The wombats were quite fat for a while crunching fallen baby apples.

the intensity of the wind.

If you can grow an effective fire break — one that will cut down wind speed, not just around the lower part of the house but also at roof level, and also one that will catch burning embers before they reach your house — you will have a far greater chance of saving your house.

You also need to cut down fuel around the house — avoid planting ANY plant that burns well within ten metres of your house; avoid flammable trees within ten to 30 metres of your house depending on slope. (The steeper the slope the bigger gap you need).

Remember that as a rule of thumb, flames reach twice as high and wide as the plants they are burning. A two metre high and wide shrub will burn four metres high and four wide.

Plants to avoid

(plants that go whoosh! or bang!)

1. Any plant with scented leaves — eucalypts are the classic scented leafed plant, but there are many others including most pines (a very few are far less flammable, like *P. ponderosa*) and cypresses, casuarinas, cistus, citrus, lavender and so on. Scented leaves indicate a high oil content — and oil goes whoosh.
2. Any plant with rough, thick or flaking bark, that will burn even on the living tree.
3. Any plant — like wattles — where the sap oozes out and dries in thick globules. Dry saps burns beautifully and can explode; trees with sap like this will also explode in a hot fire. (Wattles — acacias — are probably the best example of this.)
4. Any plant with lots of dead or dry material — jasmine, potato vines, Chinese jasmine, kiwi fruit, persimmon, giant rambling roses and many, many others accumulate dead wood as they grow larger and, even though the live plant may not be particularly flammable, the dead wood — especially by the house — can add enormously to the intensity of the fire.

These plants CAN be grown (and most are great spots for small birds to nest) but they DO need to be pruned and thinned each year and dead wood removed. (This also makes the plant healthier and gets rid of black rat nesting sites!)

5. Any plant growing climbing on the wall of the house where embers can lodge, like ivy or ornamental grapes.

Plants that slow down fires

This list is the very, very tentative results of about 30 years, far from systematic study of how well plants burn.

I've used three methods:

- I found that sometimes the plants in the standard references didn't behave as expected — as so often happens, one published source is quoted over and over with no real assessment of how accurate it is.
- As with about 90 per cent of stuff I've done here I have yet to write it up properly, and it's all incomplete anyway as most of the plants have only been tested at one stage — not all four — and this isn't the time to complete the tests even if I do it inside: the bush around us is still tinder dry or dying, and so is the garden, and we're 'showering' in half a bucket of water, so it's not the time to try burning leaves.
- Like most of us I'm now wishing I did much more work on this much sooner! But this is at least a beginning.

Warning: Do not rely on any published list — including this one!

I have tested most of the plants in this list (see notes against each species) but in many cases my testing has been incomplete — I haven't tested how they burn *in situ* or if the leaves have been parched, for example, by weeks of gale force hot winds. The flammability of some plants can really vary in different sites and conditions.

BEFORE YOU DO LARGE SCALE PLANTINGS DO CHECK THAT:

1. The freshly picked leaves don't burn easily when one bowl full is mixed with one tbsp of compressed kero — ie a commercial fire starter found at any supermarket.
2. The wilted leaves don't burn under the same conditions.
3. The dried leaves don't flare up and burn fast and hot (they will burn — just watch for flaring — a ZOOM effect — rather than smouldering).
4. When you burn a log of the dry wood the dried sap doesn't explode and you don't get small flares of 'blue' flame.
5. The fresh bark from a living tree won't burn.

How to have a good wind break/fire break

Basically you need a belt of plants that the wind can still penetrate, but will be slowed down. A totally wind resistant fire break dumps the wind on the other side. You want one



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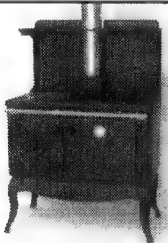
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that will slow down and deflect the wind and burning debris higher than your roof and one that will also catch some of the debris before it reaches your house and will 'cool' the fire at least slightly.

How high should the trees be?

This depends on how far away they are from your house and how steep the slope is. The steeper the slope and the further away, the higher they need to be. It's probably safest to say the higher the better, preferably three to five times the height of the buildings they are supposed to protect.

As a very, very rough guide a windbreak will help protect your house for a distance of up to 25 times the height of the trees. The best windbreak design has a row of very high trees at the back, then a row of lower trees, then another of even lower trees.

Possible plants for wind break/fire breaks

Note: these plants will probably die in a major fire — sadly trees that survive fires are usually the ones that add to the fuel load.

1. Pear — but not the ones you buy in the nursery, that are grafted onto quince root stock to make nice smallish backyard trees. Go for ones on *Pyrus calleryana* stock — or just grow *Pyrus calleryana*, which happily grows to ten metres or taller (have seen them up to 20 metres in good soil), survives hideous drought, horrid frost and is a bit less attractive to pear and cherry slug than many other pears. Seedling pears also usually grow large and hardy, up to 15 metres. Also try *Pyrus pryorifolia*, up to 15 metres (Japanese pear — selected varieties are 'nashi' pears), *Pyrus kawakammi* and the Manchurian pear, *P. ussuriensis*, the largest commonly grown pear that grows up to 22 metres high.
2. Hazelnuts, as long as dead wood is cut out. Sucker well and are very drought resistant.
3. Linden trees (have only tested leaves here, not the wood).
4. Apples — again, make sure they aren't grown on semi-dwarfing stock. Apples like the old colonial 'twenty ounce' will grow to ten metres.
5. Port Jackson fig (I don't know how flammable it is in very dry conditions though — native).
6. Mulberries — only if watered sometimes and dead wood

pruned each year.

7. Lillypillies — we grow seven different lillypillies so far all of which have proved drought resistant once established and tolerated seven degrees of frost. They are fire resistant when growing well; I haven't tested the dead or wilted leaves for flammability. Native and bird attracting.

8. Pomegranate — very drought resistant; haven't tested dry leaves. Don't plant the dwarf or semi-dwarf varieties by mistake. Dry split fruit will burn.

9. Willows — non-invasive dryland ones whose name I can't recall at the moment!

10. *Photinia robusta* (haven't tested it — I hate the stuff).

11. Tree lucerne — smallish trees; I haven't tested dry or wilted leaves or wood yet; their great advantage though is that they can be used for stock food if the stock get used to the green branches young.

12. Poplars. Have only done leaf tests, not wood tests, and only on silver and lombardy poplars. Drought resistant.

13. Oaks. Only leaf tests on green leaves so far.

14. *Melia azederach*, white cedar — not fantastic but better than many if you have to go native — one of the few deciduous natives. The moister the soil the less flammable it appears to be, but I'm still not sure about this.

15. Walnuts.

16. Tamarilloes (but no chance whatsoever in Canberra except in a warm moist courtyard!).

17. Brachychiton (native which can be grown in cool climates as long as they are sheltered for their first few winters. Does well for us). Tall, lovely tree but slow growing in cold areas.

18. Various rainforest trees — sadly, most, though not all, of these also need a rainforest. We have been trying some here in open ground with some success, and they are worth trialling. Some, like the fruit producing Davison's plum have even proved drought resistant.

19. Pittosporums — native — *P. undulatum* surprisingly drought resistant; can become a major weed in many areas.

20. Bunya pine. Have only tested green leaves, not wood or bark or dry leaves. Native; nut producer; grand specimens in Goulburn's park. This needs more testing before planting but is a possible.

21. Pecan. Must be watered to establish in this area.

22. Honey locust. Needs more testing. Choose thornless



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varieties. Very drought resistant.

23. Boobialla or myoporum species — haven't tested these. Native.

24. Plane trees.

25. Norfolk Island hibiscus (haven't tested).

26. Rhododendrons (need shelter from other trees and water — a garden rather than a windbreak plant).

Some lists give Irish strawberry trees as fire retardant. They burn like billyo, but do often grow back afterwards, which is maybe how the misunderstanding came about.

Low fire breaks

Many fleshy plants will stop grass fires. These may only have to be half a metre wide — it depends on the height and density of the grass behind. The higher the grass and the more dead grass, the wider the firebreak needs to be.

Wider low fire breaks — ten to 30 metres — help protect against bush fire. The most common fire break is bare or ploughed earth or gravel, rock, concrete or paving. (Paving is excellent around the house — you can see sleeping snakes, watch basking lizards and roller blade on it — though not all at the same time).

However, when fires are intense and winds high, houses can catch fire from burning embers hundreds of metres or even kilometres away. But at the very least a low firebreak will cut down on the amount on nearby flammable material.

These 'green firebreaks' need to be combined with making sure that any flammable material is removed, for at least 20 metres from your house on flat land and 40 metres away on steep slopes and towards prevailing bush fire winds.

(This still gives you a wide choice of garden plants — just avoid any in the categories above.)

Possible plants for wide low fire breaks

- rhubarb (drought resistant — use large-stemmed green varieties);
- agapanthus (drought resistant);
- dahlias (only in summer, but then so are most bushfires — dahlias are also extraordinarily drought tolerant);
- well-watered vegie gardens — but not dried corn stalks and so on;
- dichondra (native);
- West Australian Jacksonia — haven't tested or grown this one;
- passionfruit grown as a ground cover — also banana passionfruit *ditto*;
- rows of grapes on metal frames with paving or gravel between them, not grass.
- chokoes or pumpkins as a ground cover;
- melons — the Siberian melon will grow and fruit in Canberra, and grows in soil that literally appears to be dust or in a sand hill — watermelons originated in South African desert country;
- comfrey;
- arum lilies, canna lillies (but only if well watered — not drought resistant).

Lucerne is possibly the most fire retardant of available pasture species.

Mulch

Avoid wood chips or bark — anything that might burn. Many mulches though stay damp and semi-rotten even in dry weather, and can actually slow down a fire. Use your common sense — if it looks like it will burn, don't let it.

Remember too that rocks are also great weed suppressing, heat storing and moisture retaining mulch — and things have to be very hot indeed for rock to burn.

Summary

1. Avoid plants that go whoosh! around your house.
2. Have a high 'green' windbreak/firebreak.
3. If possible have a low 'green' firebreak to help protect from grassfires.

There are also many garden features that can help, like white painted garden walls or water gardens and bog gardens — these are another subject! There are some, however, that are both drought and fire resistant.

Most native shrubs are NOT drought resistant and will die — or at last have lots of dry wood — in dry conditions. Some, however, are both drought and fire resistant, but I've done too little work to really expand on this yet.

No, our garden isn't fire proof. Though I've tried to surround our place with fire retardant plants I never expected to have to plan for current conditions!

Growing winter onions

There are bloody few vegies that grow in cold winters. No, erase that . . . there are lots of vegies that grow but few that grow the bits you want to eat! Late sown carrots grow, but they are mostly top not burn. *Ditto* beetroot, and lettuces and silver beet sown now will bolt in spring before you've had more than a few mouthfuls. Most vegie seeds rot on cold ground anyway. Your best bet at this time of year is to put in seedlings of caulies, broccoli — and lots of lovely onions (and rhubarb crowns, asparagus crowns, artichokes and other spring delicacies too).

When to plant onions

Tropical/subtropical: February — May

Temperate: March — July

Cool: April — August

Sow direct or transplant from sets bought at nurseries.

Seedlings emerge: two weeks.

Time to picking: three to six months — depends on climate, variety and sowing time and whether you have the patience to wait till they get enormous. Baby onions are delicious.

We desperately under-estimate onions nowadays, mostly because nearly all the ones we get to taste are long stored blobs that have lost most of the flavour and all their sweetness. Fresh onions are a real delight to eat raw, baked, as onion and tomato salad, chopped with potatoes . . .

Onions need weed-free soil and full sun, though in hotter areas they'll grow in semi-shade. If they are too shady though you get lush tops and no bottoms — which may not matter. We use a lot of onion tops.

Don't plant onion seedlings too deeply — they may rot. Just cover the white stem base. Water seedlings or seeds in

gently — they are easily disturbed. (If you get a violent storm in the next fortnight or so you may have to coax them upright again.)

Onions are slow growing and easily smothered by weeds. If the area isn't weed free the weeds will grow faster than the onions and by the time spring comes you'll have weeds instead. Like carrots, onions don't need to be in dug soil — they'll force their own way down — but the soil **MUST** be bare.

The dedicated masochistic gardener of course digs the bed, waters it, waits a month, digs it again then plants the onions and weeds every two weeks after that.

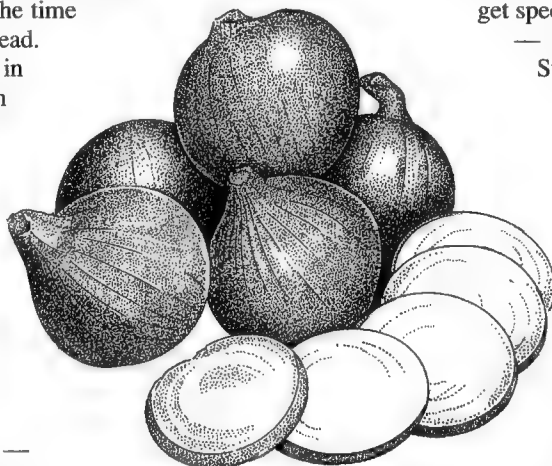
If your soil is still full of weed seeds and you can't be bothered digging, plant onions anyway — but mulch them, mulch them, mulch them to keep the weeds down — or grow them with pansies. I discovered this many years ago — plant pansy seedlings with your onions **THICKLY**. The pansies cover the ground and so prevent weeds germinating — but they are lower than onions so don't crowd them out. I found I got twice as many onions (by weight) in the onion and pansy bed as I did in the onions alone but weeded bed (and almost no onions in the onions alone unweeded bed).

I've tried other flowers with onions since — snapdragons, calendula, heartsease, lupins, marigolds and a few others. All helped keep the weeds down a bit but not as well as the pansies — except the marigolds which helped keep the weeds down but also kept the onions down too, ie we got no bloody onions, just a heck of a lot of marigolds! Pansies seem best.

Feeding your onion crop

If onions have been planted into fertile, weed-free soil they don't need much doing to them till you pick them. Unfortunately this onion utopia is rarely found. If weeds

spring up — or even if they don't — mulch onions well with a good quality mulch like compost, old leaves or lucerne hay — or even wilted grass clippings. As these mulches break down they'll also help feed the onions. Don't be tempted to boost them with fertiliser — you'll get spectacular tops and tiny bulbs — if any — and the bottoms may rot as well. Stick to mulch.



"An honest laborious country man with good bread, salt and a little parsley, will make a contented meal with a roasted onion."
Evelyn, *Acetaria*, 1699.

An exception here in poor soil where the tops look yellow and stunted from starvation is a single feed with old hen manure in early spring before the bulbs have started to develop. In this case a feed does do some good — it promotes healthy tops so big bottoms can grow. You can also get away with a sprinkle of hen manure or other fertiliser at planting — if you don't overdo it. Just don't be tempted to bung on some more when the bulbs are growing. You'll regret it.

When to pick your onions

Onions are ready when the tops are dry. Pull them up and leave in the sun for a few days to harden and for the heat and sunlight to kill any fungi spores. Rub off any loose bits of skin and snip off the tops — or even better, plait them together and hang in a dark airy shed or even the kitchen if you're going to use them soon (kitchens are too moist and steamy to preserve onions for long — but they look good up on the wall for a couple of months).

Storing onions

Choose the best bulbs with no blemishes. The best way to store them is hung up in a string bag or porous basket in a dark larder. Otherwise bung them in the back of the cupboard but make sure it is well ventilated. If it's not attack the cupboard with a hammer — but don't try to store onions in a damp stuffy place. You'll end up with onion flavoured slime.



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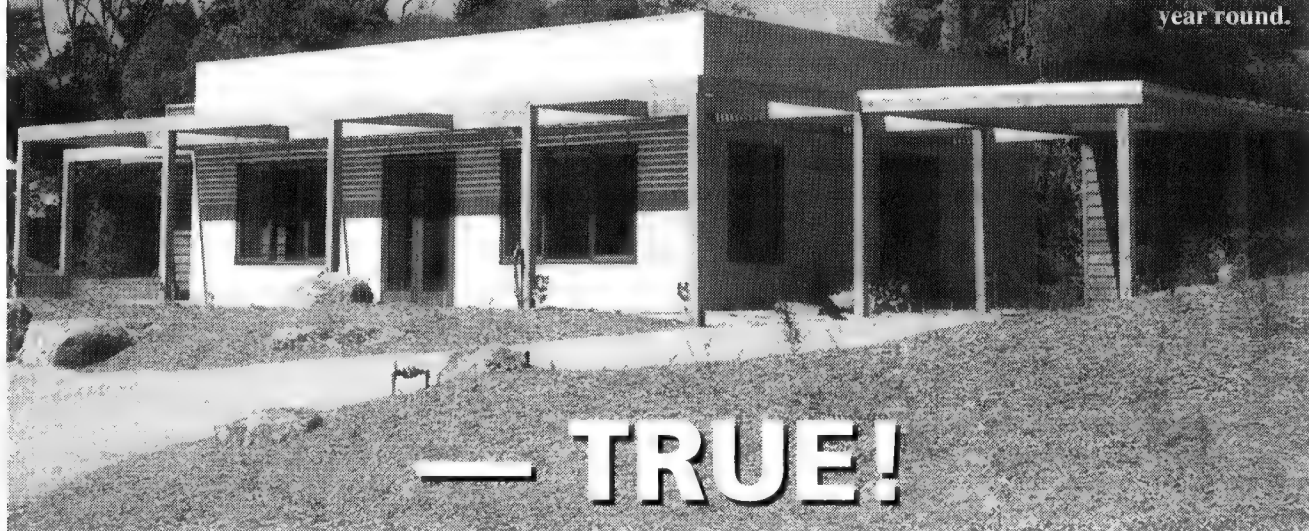
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Eco-friendly Brick Veneer

The siting of each house considers orientation to the sun and its arc all year round.



Doug shows that a house doesn't have to be mudbrick, strawbale or stone to be eco-friendly with this fascinating profile of brand-new, energy-efficient, brick veneer houses built at Castlemaine in central Victoria.

by Doug Falconer

Barkers Creek, Victoria.

DON'T get me wrong, I love living in a muddie but I know some people find it hard to avoid the feeling that the only way to live a low impact lifestyle is to up stumps, buy a bush block, build a mudbrick/rammed earth/stone/strawbale house, put in a vegie patch/chook run/goat herd, and start making your own cheese/wine/bread.

While this may be true for some — and all power to them — where does that leave the (probably larger) number of informed, concerned people who want to do better by the environment, but still want the 'comfort and convenience' of a 'modern' home?

Well the good news is that there are groups working on bringing the best of the knowledge gained by the once spurned 'alternative lifestylers' into the mainstream — designing and building houses which incorporate energy-saving technology and low-maintenance features in attractive surroundings, without having to go bush.

Turning Wild

Sue Turner and her partner Don Wild have created just such a project in Castlemaine, in central Victoria. Together with Paul Hassall and Robyn Gibson, of Lifehouse Design, and Sue's landscaper son Sam Cox, they're turning

what was an abandoned VicRoads depot in a quiet corner of town into a compact, sustainable community of seven, two- and three-bedroom houses.

What sets them apart from average new suburban homes? Just about everything! As soon as you turn the corner into the development, you know this is something special.

Good design and low environmental impact are just the beginning with these homes. Only one has been built to date, but the whole area has been landscaped in preparation for the other six. There are no boundary fences, and none will be permitted under the covenants on the properties. Instead, careful landscaping involving low mounds, planted with native shrubs and trees, will screen them from each other.

Where are your manners?

"The houses are all designed to have 'good manners' toward each other," says Sue. "They do not 'look' directly at each other, and the siting of each house takes into consideration everything from orientation to the sun, and its arc all year round, to using existing trees both for shade and privacy, through to the potentially annoying effect of car headlights."

Sam has done a wonderful job of both the landscaping and the design of the gardens. He acknowledges Alistair Knox's vision of 40 years ago — the 'total living environment' — and adds a few ideas of his own. "I think the



All the appliances are energy saving models and the houses have a First Rate Certificate from the Victorian Sustainable Energy Authority.

surroundings should be an extension of the home — comfortable, sustainable and low-maintenance,” he says. The mounds have a dual purpose of separating the houses and giving them the appearance of settling into the landscape. They are planted with all Australian natives — local species from Goldfields Revegetation in Mandurang — which will grow to between two and four metres tall, giving privacy without shading the homes’ solar panels. Away from the house, more hardy species are planted but close to the house, where it’s easier to look after them, the ‘showier’ plants are used.

One interesting and possibly controversial aspect is the heavy use of eucalyptus mulch — made from the

mulched waste from hardwood timber mills. At the moment, some of this comes as a by-product from native forest clearing, but Sam is confident that a similar product will be available when, inevitably, the forest industries see the light and move completely over to plantations. This mulch is mainly woody, avoiding the inhibitory effects of acidic eucalyptus leaf litter (which anyone living in the bush will be familiar with!).

Downsizing

The houses themselves are an inspiring blend of modern design and materials with sustainable living theo-



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Sue Turner and her partner Don Wild are turning an abandoned VicRoads depot into a compact, sustainable community.

ries. They are all of a modest size, single storey, and built from a combination of bagged brick veneer and cedar weatherboards on a concrete slab. All have a rainwater tank, carport and a workshop/shed, cunningly sited to shield the hot west sun in summer. They feature grid-connected solar power (producing 2 kWh per day in late March when I saw it) and solar-boosted gas hot water. All panels are mounted with minimal intrusion on sight lines — I had to ask where they were! The thought behind the design is evident in little touches such as separate light switches for each light in the main living area — to prevent them all being turned on at once if that is not necessary.

The house is full of light. “We carefully studied the

book *A Pattern Language* by Christopher Alexander, Sara Ishikawa and Murray Silverstein,” said Sue (Don doesn’t say much), “and it has reinforced a lot of ideas we had about how people live and the importance of natural light”.

Extensive passive solar features include the large thermal mass of the slab, which is simply painted in the main living areas, north pergolas with sun battens planted with vines, tight draught-proofing and stunning double-glazed casement windows which also provide efficient cross-ventilation. The ceilings and walls are heavily insulated, and there are reversible ceiling fans in all main rooms and even a thermostatically controlled electric roof vent fan (so you can switch it off in winter to keep warm air in the roof space). There’s also a natural gas space heater for when those clear, frosty Castlemaine nights get just a bit too cold.

“The houses are designed for everybody,” says Sue, “but we have tried to build in some elements for ‘aging in place’. There are no tight corners, no steps, non-slip tiles in wet areas, walk-in shower and so on. This way, the houses will also be suitable for the disabled or elderly, but not look like a hospital.”

Needless to say, all the appliances are energy saving models, and there’s no dishwasher installed — though of course one could be added later. The houses have a First Rate Certificate from the Victorian Sustainable Energy Authority.

These houses, and the community they will nurture, are proof that sustainable living is not some pie-in-the-sky ideal or the exclusive province of ‘alternative lifestyle’ers, but a viable option now, anywhere. I’ll never pooh-pooh brick veneer again!

• For more details about the Munro Court houses contact Sue Turner and Don Wild on (03) 5472 1015, or email: <turningwild@castlemaine.net>.

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Knotting Ventured, Knotting Gained

Geoffrey Budworth is the high priest of low-tech cordage work. He has been tying knots for more than 50 years and is a prolific knotting author with around 15 published titles. In part nine of Geoffrey's ten-part series, he describes the slide & grip hitch—a knot that will be useful for any Earth Gardener.

Written and illustrated
by Geoffrey Budworth

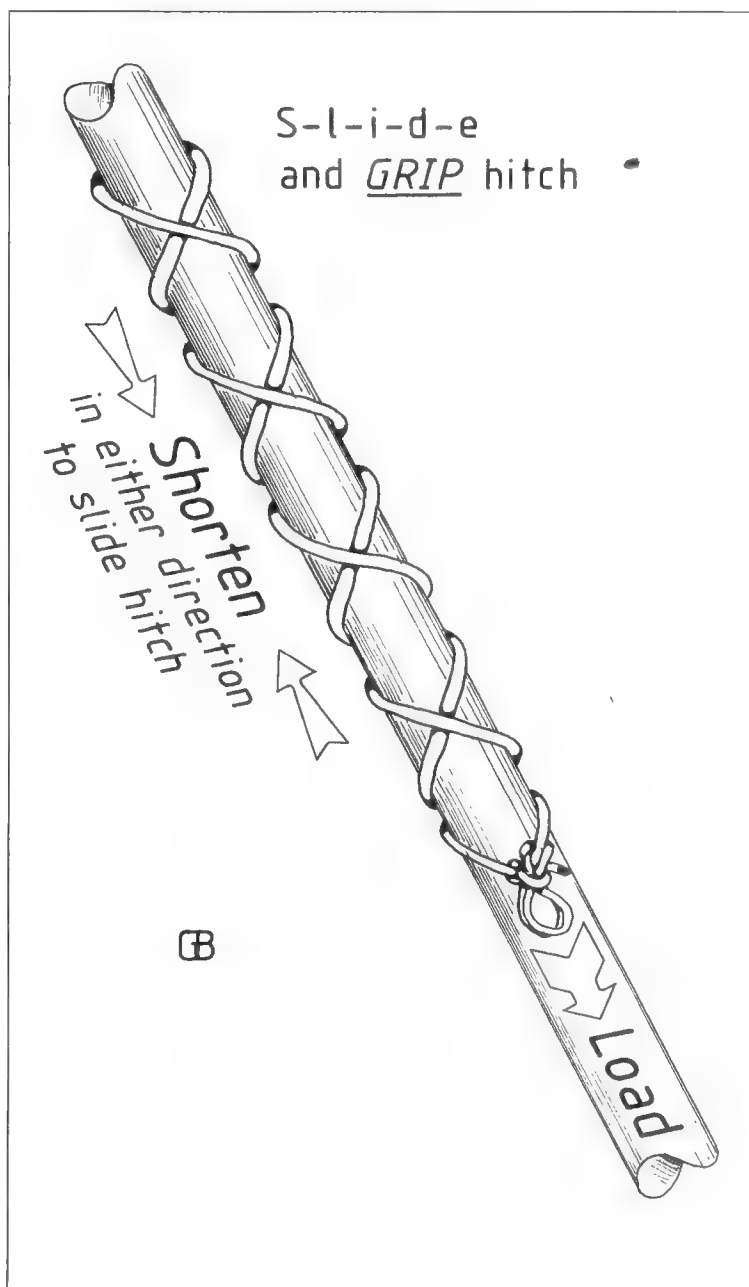
Tonbridge, England.

TO ANY list of low-tech stratagems for Earth Gardeners — from strawbale homes to clockwork and pedal power — I would add knotted cordage, especially natural fibres such as hemp, manila, sisal, coir and esparto grass, obtained from grown (and renewable) crops. There is, in any case, a limit to the hard cash that self-sufficient souls should spend on patented clips and clamps, when a lace, lanyard or lashing works as well or better. The following knot is part of a handy and versatile starter kit of knots I'll present with which to tackle and tame a variety of tasks.

Knot 9: Slide & grip hitch

To withstand a load that exerts a longitudinal pull on a post or rail (vertical or horizontal), when it lacks any ring, hook or other point of attachment, use this proverbial 'sky-hook'. Working from the middle of a length of cord that has a couple of perfection loops (see EG 121) tied in its ends, wrap in both directions around the foundation. Ensure that strands go over and under alternately at front and back. Finally, attach the load to the loops. Pulled, it contracts like a Chinese finger trap. To adjust its position, merely grasp and slide one end or the other, when it shortens and expands, releasing its otherwise tenacious hold.

• *Geoffrey is a co-founder and past-President of the International Guild of Knot Tyers, and he has a comprehensive grasp of the age-old repertoire, combined with an up-to-date awareness of the very latest knotting innovations.*



Anti-GE campaigners stalk 'Frankenstein Food' in roadshow

— Network of Concerned Farmers Tour March 2003 —

The Network of Concerned Farmers is a group of Australian farmers trying to stop the release of genetically-modified (GM) food crops, such as canola. In January the Network hatched the idea of a tour, to coincide with the proposed release of GM canola for commercial planting this year, to convince politicians, the media and the public of the lunacy of spreading genetically-modified food crops.

by Scott Kinnear*
Daylesford, Victoria.

**National spokesperson for the Biological Farmers of Australia.*

OUR two week tour began in Queensland, then moved through New South Wales, into Victoria and then finished in South Australia. Tasmania and Western Australia have announced GM moratoriums so we left them off the schedule. We invited Bob and Barbara Willick from Canada to come as keynote speakers. Bob Willick is one of the organic farmers suing agri-chemical giants, Monsanto and Bayer, for financial damages from the release of GM canola in Canada. The organic farmers are unable to grow organic canola anymore and had shipments of canola rejected from Europe.

Other speakers on the tour were Julie Newman and

Judy Carmen. Julie is a large grain grower in WA and, with her husband, also operates a seed cleaning business. She is a dynamic and energetic advocate for the rights of farmers and has been active and is well known in Western Australia. Judy Carmen is an affiliate senior lecturer from Adelaide University and is the spokesperson for the Public Health Association of Australia on genetic engineering.

Queensland

Our tour started on 2 March in Brisbane with an evening public meeting in Parliament House hosted by an independent MP, Peter Wellington. The next day we met with the Director General of the Department of Primary Industries and held a press conference before heading for a meeting with farmers and townsfolk from Toowoomba. Later that afternoon we were phoned by journalists wanting us to comment on the NSW announcement of a moratorium

in the lead up to their 22 March State election. My comment was: "Great! We've notched up a win before we've even reached New South Wales!"

At Toowoomba the meeting went well until a Monsanto representative stood up and gave the typical line about feeding the world and how wrong it was for African countries to reject GM food aid. Our response was to tell him to f*** off (note: this has been inserted to see if the editor is paying attention).

In fact there is plenty of non-GM food aid the US could have chosen to supply. If GM corn was supplied as aid some farmers would inevitably plant the

The Network's frantic road tour started with a bang when the NSW Government announced a moratorium on the commercial release of GM canola.



corn and infect their non-GM corn stocks. The Africans also object to GM corn because of unknown long term effects — the president of one country put it like this: “We eat corn three times a day and in the US you people eat it as corn flakes for breakfast.”

New South Wales

On Tuesday morning we arose in Toowoomba at 5:00 am to catch a 9:30 am flight from Brisbane to Sydney. As we drove into Brisbane our mobile phones sprang into life with journalists hot on our ‘David versus Goliath’ story. As we pulled into the airport I conducted an interview for the ABC’s ‘The World Today’ with doors slamming as our farmers jumped out of the white Tarago.

In Sydney we met with Greens Upper House MPs who hosted a press conference for us. In the lead up to the election both the Greens and the Coalition had announced a moratorium position so with the announcement by Bob Carr the day before, we knew that New South Wales would not allow the planting of GM canola for at least three years. In the afternoon we met with the NSW Farmers Association and the Chief of Staff of the Agriculture Department of NSW.

That night we met with lawyers to discuss possible legal options to try and limit the release of GM foods in Australia and then on Wednesday headed to Cudal (near Orange) for a public meeting with grain farmers. The issue seemed to have lost its urgency in New South Wales and there were no further interruptions from Monsanto reps at this meeting or indeed any others on the tour. I also think this is because we are raising issues that they cannot adequately respond to, such as inevitable contamination through pollen transfer and grain handling, and the risks associated with these crops because they have not been assessed for long term impact on the environment or human health.

After Cudal we headed to Wagga and stayed in a motel across the road from the John Farnham concert. This meeting was attended by approximately 140 people, mainly farmers. The next day we had to travel to Albury leaving at 6:00 am for an 8:30 am meeting before going on to Bendigo for a ‘Women in Agriculture’ meeting at 2:00 pm in the council chambers. It was when we were preparing to leave Wagga that I knew I was more than a little fatigued from the hectic pace of the tour. I had put on my shoes and was about to leave my room and had left my pants on the bed!

Victoria

Bendigo City Council declared its GM free status some time ago so we received a warm welcome including an opening address from the head of the Municipal Association of Victoria. He indicated the MAV’s intention to take up the issue of GM food crop releases with the State Government in line with the position of member councils opposed to such releases.

The tour then went on to Melbourne on Sunday evening and Horsham on Monday evening before a press conference and meetings in Melbourne. A comedy of errors within the State Government was the excuse for a failure to meet with any representative of the Victorian Government. To date, despite further written requests, no such meeting has been forthcoming, leaving a perhaps more obvious reason for failing to meet with

Survey: 70 per cent of Victorian farmers concerned about GM canola

The first comprehensive survey of Victorian farmer attitudes has shown that farmers are overwhelmingly concerned about the proposed introduction of GM canola. The survey, commissioned by Doug Shears from ICM Agribusiness and in consultation with the Network of Concerned Farmers and released on 9 April 2003, provides overwhelming justification for a statewide moratorium on the release of GM canola. Key findings of the survey are:

- 71 per cent of farmers surveyed have concerns regarding the commercial release of GM canola;
- 67 per cent of farmers who said they were concerned have significant concerns about the ability to market GM canola;
- 80 per cent of farmers who said they were concerned have significant concerns about the ability for GM and non-GM canola to co-exist.

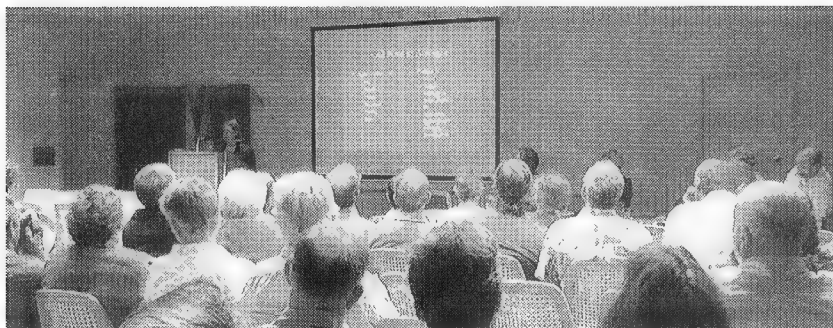
Scott Kinnear, VFF member and spokesperson for the Biological Farmers of Australia, said: “The Victorian Farmers Federation have been unwilling to ask farmers what they think about GM canola so it has been up to the rest of the farming community to do their work for them. It’s of little surprise that only a slight majority of Victorian farmers consider the VFF to be a trustworthy source of information on GM crops.”

STOP PRESS



Scott Kinnear

As *Earth Garden* went to press, Scott Kinnear was awarded the Centenary Medal by the Federal Government for services to the organic industry, the ‘slow food’ movement, and the environment. Congratulations to a worthy recipient from all Earth Gardeners! See the latest update on page 7.



Dr Judy Carmen stunned people when she revealed in public meetings, like this one at Horsham in Victoria, that GM foods are not tested on animals for more than a few weeks.

the Network of Concerned Farmers: the Bracks Government does not want to hear what we have to say at present.

South Australia

From Melbourne we flew to Adelaide for a public meeting on Tuesday evening where the Bayer representatives took notes in the audience but did not speak. On Wednesday morning we met with the Agriculture Minister and senior staff for an hour and were assured that South Australia would not allow the release of GM canola this year. We then headed to Parliament House where we presented the issues to seven members of Parliament in a forum hosted by Upper House independent MP, Nick Xenophon, and Democrat, Ian Gilfillin. Then we headed for the last stop on the tour which was at Clare, two hours drive north of Adelaide. Exhausted, we headed back to our home States and the Willicks back to Canada via New Zealand.

Dr Judy Carmen

One of the highlights of the tour was the reception that Dr Judy Carmen received. Her talk focussed on the health risks and assessment by our regulator, Food Standards Australia. The main issues she raised that stunned people were that GM foods are not tested on animals for more than a few weeks and no human feeding trials have

taken place. She debunked the myth that no Americans have been harmed by GM foods even though they have been eating them since 1996. As a public health epidemiologist she explained that there is no monitoring program in place, no understanding of what to look for, and even with AIDS, when thousands of young men were dying of secondary infections, it still took years to discover the disease, and even then it was through monitoring of another drug.

Julie Newman was able to address the cost and liability issues posed by the release of GM crops like canola. She

shows how government studies demonstrate that the yield gains (these are hotly debated and may only be one to two per cent) minus the extra cost of segregation and cost and liability, mean we will be worse off.

Canadian organic farmers

Bob and Barbara were stars. In his quiet and unassuming way Bob explained how he had adopted GM technology to try to make a living and had lost money and found himself battling major weed control problems. Bob and Barbara then turned to organic farming at the time that organic canola was found to be contaminated, so they can no longer grow organic canola. This limits their production system choices. Bob's opening line in his talk is that when they left it was minus 27 degrees and there are a lot of things they like about Australia.

We were very thankful to have them here and the tour received great media coverage of the issues. It has also empowered thousands of farmers and consumers with more knowledge to go on presenting the issues to our State and federal parliaments.

• If you want to find out more go to the Network of Concerned Farmers website and sign the 'Alternative Grains Industry Statement' opposing the release of GM canola, and help the lobbying effort: <www.non-gm-farmers.com>.



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it's one of three main ingredients that work life's magic

organic farmers treasure it

but the cleaning industry demonises it

why are they so scared of life's magic? I know what I'd rather live with

kids play - wombats dig - flowers bloom - birds nest - trees tower and bread bakes...

this simple stuff below our feet

... in dirt has intricate and highly organised working parts

when 600,000 of us live in one square metre of soil, we have to be organised!

bacteria
fungi
copper
arthropods
magnesium
iron
molybdenum
calcium

but too often it's taken for granted and suffers terrible abuse

yield's down - need more super

let's go find some clean dirt!

take that!

T. Redwood

Fay's Hideaway —

WWOOFing Somewhere in Queensland

Earth Garden's nomadic WWOOF host and wwoofer, Colin Statham, continues his series of articles on different WWOOF host farms around Australia. This issue he visits a host farm on a bush block on the edge of a large Queensland town.

by Colin Statham

Tweed Heads, New South Wales.

I LIKE the bush and most of my travels are bush orientated, seeking new places, new WWOOF hosts, experiences, and, well . . . just something different. My next hosts just happen to have that something 'different' — they combine their 12 acres and their work: landscaping large areas around hospitals, prisons, or sports fields. Due to the enormous amount of gear these jobs need, a quarter of the 12 acres are taken up with machinery: back hoes, road rollers, graders, trucks, an old bus (that they travelled around Australia in), a huge workshop and the house with sheds, and a second, unfinished house for guests and of course, we wwoofers.

A bush block, on the edge of a large metropolis, with the usual animals: chooks, ducks, geese, and that 'something different' — not the 'man-eating pig' — something much more unusual than that. (*The make believe begins here, Colin.*)

We arrived by air, in the smallest plane the host could find. It was so small that my back pack was actually strapped to the port wing.

"Another kilometre," said the pilot. I looked around, but couldn't see anything that resembled a runway. The pilot, noting my questioning look, said: "I land on the dirt road that goes from the start of the boundary to the house. Bit rugged but it's okay. Then I turn left near the house and run gently into that tree . . ." (pointing to a small sapling). ". . . to pull us up, as the brakes aren't too crash hot".

I wasn't so sure I liked the sound of the 'crash hot' bit. He lined up with the gravel track, missing trees and small shrubs. Touch down was okay but on the run up to

the house the plane was found to have no brakes at all, rolling into a heap of bush that slowed us down. It turned left okay as it slewed into the sapling, came to a beaut stop, nose down in the scrub with no injuries. We climbed out, inspected the damage, and gave it the thumbs down. The plane was a write off, so we pushed it a bit further into the scrub, and pensioned it off. They showed me to my quarters, a kitchen, laundry, lounge and toilet. All in the open. I was in awe. The toilet, inside a burnt out tree stump, complete with wash basin, was alongside the driveway to the house. The lounge was a chair, and a 1965 TV was the laundry, with a washing machine and ironing board, circa 1956. The bedroom, fortunately, was in the unfinished house, with a comfortable bed on the floor.

Well, I've heard of 'open plan living', but this was the real outdoors. "Okay," I said, "it'll do me". The toilet was the first priority. I can rough it with the best but . . . what if . . . and some visitors came along the drive? Asking me for directions — I'd be embarrassed. (*The make believe ends here, Colin.*)



The front half a Jaguar car turns into a barbecue when you lift the bonnet.

The family

I met the family, and I add with pride, that they are one of the nicest families I've ever had the privilege of knowing. The children were well behaved, kind and considerate. The place ran like clock work: up early, with cuddles for all the children by the parents, the house jobs were done, gear for the day's

work assembled. The children were just great, and ranged from ten years to three months. The older children had their jobs to do in the morning: wash themselves and the younger ones, feed the chooks and the dog, get four play lunches ready. I, between washing up and taking photos, was brushing the girls' beautiful long hair, while they told me snippets of news from school — what a lovely family.

The PIG

I asked if could I feed the pig later. "Yes," the children told me, with all childish honesty, that it is a quiet natured pig, and that they could tickle it under the chin, and ride on its back. They'd be off, walking with mum to the front gate for the bus to school, or if running late like today, they were driven in by mum. And when they had gone, I, with a half a bucket of scraps, walked up to the pig pen.

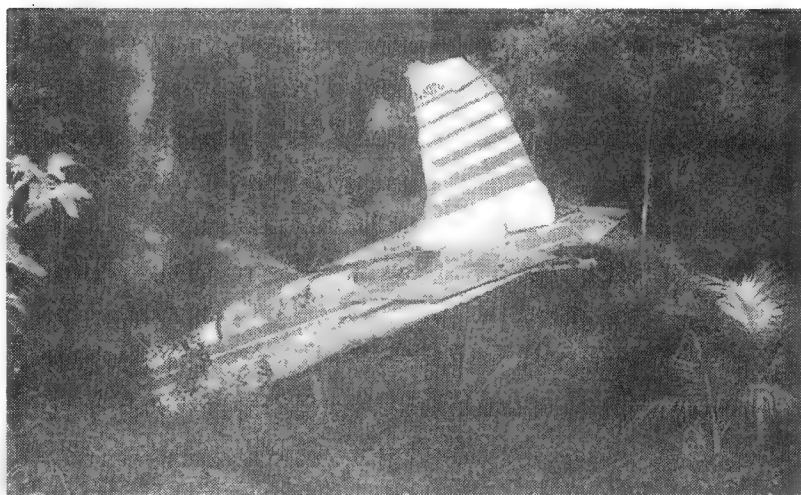
The pig pen was a strong, galvanised pipe, fenced in affair. I got to within five metres of the pen. Strewth! Here's this huge PIG. It must've been all of three metres long, and built like a car, grunting and slobbering, waiting for its breakfast.

I said, "G'day, porkie. You're going to look good on the barbecue." Do you think the pig could understand me? Reassured by the children's thoughts of it being a quiet natured animal (it's only a pig, I thought), I walked to the pipe rail level with my chest, when all of a sudden this 'thing' reared up, putting its trotters on the top rail, slobbering, mouth wide open. I thought it was me — not it — for the barby. It must have taken offence at my earlier remarks, as it started licking my face, and ever since that day, my hair has been a silver white. Talk about a scare — "quiet natured" indeed. Now I know why wwoofers are insured.

One day while I was washing the evening dishes, discussing the day's events with mum and dad, the children were out on the big verandah making the usual playing noises. Then the noise got quieter, then very quiet. So I tiptoed out with camera to see that they'd found a roll of electrical tape, and all had their mouths taped shut. Such peace.

Wwoofing work

Work, was easy, getting the second house ready, emptying the rooms of some stored furniture, stripping off the old wallpaper with a hot steaming device (which made quick work), cleaning up, then painting. Since the family



Colin just felt that the plane deserved an honourable mention in the story.

bought their acreage in the 1980s they have live by the motto of 'stow it, don't throw it', and by George, this place takes first prize. Nothing was thrown out. There were sheds full of 'collectables'. The front half a Jaguar car turns into a barbecue when you lift the bonnet.

With the wildlife in residence (a snake), birds, and a bush turkey wandering about, it is such an interesting place that I've been there twice. And all the things you read in the first paragraph were only make believe, to add a bit of mischief to the 'arriving' at the place: I thought the plane, toilet, lounge and kitchen should get honourable mentions. They're the 'something different' in today's world — they may come in handy one day.

• Wwoofing is a cheap and cheerful way to see Australia. Many people also use it to try an area or way of life before plunging in. Whether as a wwoofer or a host, give it a go. Contact: WWOOF Australia, W Tree, Buchan, Victoria, 3885, phone (03) 5155 0218.

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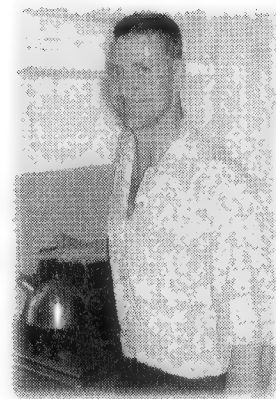
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From Spade To Blade

Gary Thomas' Garden Recipes



As long winter nights approach the taste buds can start to demand potato dishes aplenty. Luckily, our softer-fleshed, thick-skinned Gary Thomas (floury not waxy) can come to the rescue.

EVER had that feeling that all the decisions to be made and all the operations to be ordered are beyond the brain's capacity to complete in the allotted time?

Potatoes are simple.

When we moved into our current house and its (previously) devastated vegetable garden I blanket mulched and started again no-dig style. Among the early growth, a couple of wild potato plants sprouted and poked through. I guess they were survivors from another era.

They grew well, I left them and they were ready to harvest by late January. This is very unusual in my climate zone. I dug them up gently and found to my surprise six Pontiacs, each in Errol Flynn condition, each bigger than a full pound of butter, some massively so. I exhibited them publicly for a week, pretending my green touch was responsible for such fine specimens. Well, I had dug them up and washed them.

Vanity nearly won out as all my visitors made the appropriate noises. The potatoes were given greater and greater prominence, finishing up as a minimalist highlight inside a half-bath sized white porcelain water feature on a wooden plinth in a major traffic lane (I had the pump disconnected).

My difficulty was that the best position for public viewing also copped a good bit of morning sun, which quickly started to turn my folly green. The diminishing beauty was impossible to ignore. My glory days were over and the potatoes and I returned reluctantly to the kitchen.

Store potatoes in a cool, dark, dry, well-ventilated place. Don't refrigerate them — doing so converts some of the potato's starch to sugar. Don't expose them to direct sunlight, which turns them green and makes them bitter. Scrape away any sprouts or green spots, since they might

contain a mildly toxic compound called solanine.

Waxy or floury

Potatoes fall into two very broad categories: those that are waxy and those that are floury. Waxy potatoes hold their shape when cooked. Floury potatoes break apart more easily and are those best suited to mash, gnocchi and the like.

Freshly dug potatoes are firm, thin-skinned (sounds like someone I know) and low in starch, best suited for boiling, casseroles and potato salads. Old potatoes are higher in starch and yielding to the touch, better for frying, baking and so on. These are broad definitions.

Cook a few kilos of potatoes in their jackets and eat all week

Wash the potatoes and put them in a large cooking pot. Add enough cold water to cover, bring to the boil and simmer until just tender. They are perfect if a skewer passes easily through the flesh and the skins have not yet begun to crack. They can be left in the pan to cool, although for these dishes I prefer to tip the cooked potatoes into a sink of cold water to arrest the cooking process right where I want it.

Potato dumplings

Make these dumplings to add something more to that main course soup on a cold winter's night.

3 cooked floury potatoes, about half a kilo
2 eggs, separated
1-2 tbs flour

salt and pepper to taste
finely chopped parsley.

1. Peel, purée or mash finely the potatoes.
2. Add the egg yolks and mix well.
3. Add the flour, parsley, salt and pepper (if using).



4. Beat the egg whites until stiff. Fold into the dumpling mixture.
5. Using two small spoons, form the dumplings. If they are too sticky, fold in a little more flour to make them more workable. Reserve on a lightly floured plate until ready.
6. Heat the soup to boiling. Reduce to a light simmer. Tip dumplings into the soup. They will drop under the surface then rise as they cook. When they are floating, they are ready. Serve immediately.

Potato shapes

Cut cooked waxy potatoes lengthways into finger thick slices. Use good metal biscuit or scone cutters of the appropriate size to make circles and donuts, or stars and hearts — just like the colonials did when they ran out of money. Fry on both sides for a few minutes until crispy and toss with pickled green beans and lettuce to make a warm winter salad. Alternatively, sprinkle the spuds with a little salt and toss with some shavings of chili lime butter. There is the odd child who like theirs served with tomato sauce.

To make the compound butter, mix 150 grams of softened butter with a tablespoon of finely chopped pickled jalapeno chilli, a good squeeze of fresh lime juice and the merest pinch of cinnamon powder. This is also good on zucchini and any other roasted root vegetable.

Pesto in potato shell

Lucky me popped plenty of pesto into the freezer this year, following a good crop of basil. I also made plenty of red chilli pesto that gives a spectacular edge to the following party suggestion.

1. Cook small floury potatoes until just tender, about two per person as a starter. They will hold shape better than a larger potato of the same variety. Cool.
2. Using a sharp edged teaspoon, carefully scoop out

much of the inner flesh, to create a shell of five to ten mm all the way around. Repeat until all potatoes are shelled. Reserve flesh for another purpose.

3. Fill the potatoes with your best pesto. Do not overfill. For a fancy finish, put just a drop of red chilli pesto off centre. The red amongst the green. This is optional.

4. Place all potatoes on an oiled baking tray and spray lightly with more oil. Bake in a pre-heated hot oven for 12 to 15 minutes, or until the exposed white flesh of the potato is looking golden. Cool slightly. Serve.

Potato pastry

- 1 cup plain flour
- 1 cup self raising flour
- half a cup cooked mashed potato
- 1 tsp salt
- 125g butter or marg
- cold water.

1. Sift together flours and rub in butter to look like fine breadcrumbs.
2. Add mashed potato and mix well.
3. Add just enough water to bring the pastry together. Start with one tablespoon.
4. Chill the pastry for at least 30 minutes. Roll out onto a lightly floured surface to a thickness of five to six mm. Use with a favourite filling.

Cheers, Gary Thomas.

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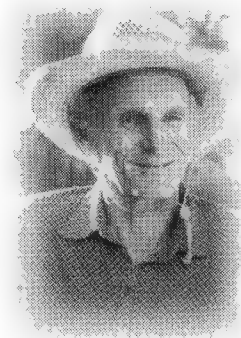
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Permaculture

in Hindsight



Our regular columnist, Bruce Hedge of Newham in Victoria, (email: <bahedge@bigpond.com>), contemplates the challenges of making a rural property individual, productive and family-friendly while leaving open the option of maintaining its appeal to a reasonable range of potential buyers, should you one day decide to sell.

THIRTY years ago, they bought a ten acre block of land way out in the sticks, 25 miles away from the centre of a large city. They were young, starting the great journey towards self-sufficiency, full of enthusiasm and energy, firing on all cylinders as they carved the land into a beautiful example of how to live lightly on the Earth. Town water was available, but they chose not to connect it. Instead, they developed a very efficient, gravity-fed watering system, which took a bit of manipulating, but worked well.

The mudbrick house was home built. A superb example of passive solar design, north facing, five bedrooms, 'rustic' in real estate parlance, not completely finished, but eminently liveable. The family grew up there and loved the lifestyle, with school just down the road, shops within walking distance, and a regular train service to the big smoke. Orchards were planted, chooks came, woodlots grew, vegetable gardens flourished, and a paradise was created from bare land.

Slowly, it dawned on them that they were no longer in the sticks. Houses sprung up all around on half acre blocks. Slowly, perhaps suddenly, the area became trendy. After all, they were only 40 minutes from town on a good train line, and in the country! Supermarkets appeared, a freeway delivered traffic to their door, and the isolation was gone. The rates shot up on the block, making it much more expensive to live there. They couldn't sub-divide, even if they'd wanted to. Life was becoming hectic. This was a unique block.

Unmanageable

It was also becoming unmanageable. Kids had left home; trees, plants, and animals were taking over and

becoming feral! And the owners were not getting any younger. They decided to sell and move closer to the city, onto a smaller, more manageable block. There was only one slight problem: their property was now valued at nearly a million dollars. This was one of the last ten acre non-subdividable block within 20 miles of the city, and it had this home-built, quirky house and management system, which was interesting, to say the least. Anyone with a million dollars to spend would want something completely different, wouldn't they? The grand entrance, not the mud-room. The three en-suites, not the two home-built functional bathrooms with recycled baths. Central heating, even though it was unnecessary. No one would pay anything like what it should be worth, because it was just so . . . different.

Now, let's look at it from the real estate agent's point of view.

"Bush blocks round here are difficult to sell." "Dirt roads put people off." "Only one phone line?" "No dishwasher? This kitchen will need complete re-modelling."

"Naah . . . people with that sort of money to spend want big, new modern houses on cleared land with a pony paddock for the kids."

To put it realistically, the number of potential buyers for established, personalised, 'permacultural' properties, especially in the higher priced areas, is exceedingly small. The number

of buyers who will appreciate and maintain the wonderful design features of the whole block is close to negligible. Especially if both partners have to work to pay the mortgage!

But, I hear you say, "But we're going to retire here. We'll never move!" Sometimes things happen which make us reassess our future plans. As many of us baby boomers



get towards thinking about slowing down a bit, we look at the huge effort we've put into the place, and wonder about our ability to keep up the maintenance of our blocks. Wwoofers are wonderful but intermittent. Are there easy instructions about starting the fire pump, if necessary? Are the animals self-sufficient for short or medium times? What needs to be watered? How can we make everything run more smoothly and easily?

This, for a growing number of us is a dilemma we have to have. Perhaps the message to readers just launching themselves forth on the great journey is to look 20 years down the track, and put yourselves in a potential buyer's shoes. Avoid the temptation to make things too different, or if they are, make them easily changeable. I do realise, however, that it is almost impossible to look that far ahead in these times. The only thing that is absolutely certain, is total uncertainty. Did any of us envisage the internet 20 years ago?

Drop a line to EG (or me: <bahedge@bigpond.com>) if you've been through this exercise. We'd love to hear from you!

Bushfires

Last week, we had a taste of what many of you have been through recently. My deepest sympathy to any of you affected by fires this awful year — I can't begin to imagine what it must be like to lose everything. We had to activate our fire plan when a 'fuel reduction burn' by the State government's Department of Sustainability and Environment (DSE) got out of control, and got to within a kilometre of our home. I am totally confused about fuel reduction burns in forests, because I see dense undergrowth spring up in burnt areas so that two or three years on, there's more fuel there than before!

I accept that a reduction of understorey forest litter is going to slow any fire but I do wonder about long term changes in the ecosystem under the forest canopy. The wombats will have been safe in their burrows, but what will they eat if we don't get rain soon? The powerful owl habitat is gone. And how many other animals, insects, and plants are now extinct in our local area? I really am confused about

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Limited numbers of unbleached cotton T-shirts are available for \$20 plus postage from the Cobaw And Wombat Forest Action Group (sizes XL, L and M). Phone Chris Litchfield on (03) 5423 5254 to see if any of these collectors' items are left.

fuel reduction burns and I know I'm not alone.

There exists nearby a good-sized area of forest on private land which has had grazing totally excluded from it for 60 years, and was last burnt in the '39 firestorm. It is quite incredible to walk through this land. A diverse, wonderful untouched forest, teeming with different species of wildflowers and insects, with almost NO build up of flammable understorey. It's an open woodland, with a highly complex, completely different ground cover from that of the managed State forest next door. I really do wonder what the answer is.

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Questions & Answers

... with Jackie French



If you've got a problem with grubs, grasshoppers, grapes or gungy tea towels email Jackie c/o *Earth Garden* at <info@earthgarden.com.au> or write to PO Box 63, Braidwood, NSW, 2622.

Sorry — due to mail spilling off every available surface, letters will only be answered in the magazine. But with fingers crossed and as long as the phone lines don't crumble any further, emails will be answered — if they're not, I don't know the answer or it's too long to cope with!

Speed treat fruit tree seeds?

Hi Jackie,

My wife Louise and I, with the bank manager, purchased a block of land to build our new home. We are going to turn about five hectares into a bush corridor. We gathered seed from native gums, grasses and wattles that we heat treated by various methods like microwave or boiling water, with excellent success. We now have thousands of various plants to go in this spring, if we get enough water.

Around the house we want to establish an orchard that I would also like to grow from seed. We have accumulated a vast array of tasty peaches, nectarines, plums, oranges, apples. Can you treat this seed? Is there 'a stick in the freezer for one to two days, or in the fridge for a week' system that would speed up the process? I like things to get moving. Thank you for your inspiration to get out there.
Keiran Keenan, Albury, NSW.

Hi Keiran,

Very fresh apple, plum (and so on) seed germinates fastest, so if you can plant seed from just-picked fruit the chances are it will germinate in three weeks or so. Otherwise stick it in the fridge for six weeks, to make it seem as though the fruit has gone through winter; it should germinate in the 'false spring' when you plant it in warm soil. Fresh seed sometimes doesn't need this artificial winter, but other times it just sits there till a real winter has passed. Otherwise plant the seed in spring.

I've found that fruit seeds germinate fastest with a little of the rotten fruit pulp around, but not the whole fruit — the whole fruit seems to inhibit the seed from germinating. Sometimes leaving a bit of fruit pulp around the seed, then wrapping it in plastic and leaving it on a hot window sill speeds up germination too — just be sure to plant out any seeds that are shooting before the shoots rot — this is a very small window of opportunity sometimes!

Have fun with your fruit trees! I think my most

beloved trees are my seedlings, the ones I've nurtured from babyhood, not acquired as established trees. Remember with the apples though that you'll need trees that pollinate each other.

All the best, Jackie.

Essential trees, rats and hens on strike

Dear Jackie,

I SO appreciate the time you take to reply to all of my emails. With all the letters you receive, I am amazed that you can do it. I get so much out of your books; I own many of them and scour libraries for out-of-print ones. Since all of this war-talk, fuel price rises and so on, we are more committed to growing our own produce. Vegies may be more realistic for semi self-sufficiency on a suburban block, but I have trees because I LOVE fruit. If you lived on an 800 square metre block surrounded by eucalypts, what would you consider essential planting?

Also, I have four chooks and they live in a pen with attached run, and free range every afternoon, but the two laying hens are not laying! One of them has gone off the lay completely and I have read that in the absence of a rooster, a chook will sometimes take over the role and stop laying. She is definitely the dominant one.

The other laying (not) hen went broody once, so we acted quickly. Since then she only lays sporadically. They have fresh water, laying mash, maggots from my fruit bin and they free range almost every day. I have stopped throwing in food scraps because we have a terrible rodent problem, and hundreds of native (?) rats were having a ball with all the scraps. They (rats) have also demolished the passionfruit vines. Any suggestions on rats? Have you heard if sonic frequency deterrents work well? Thank you so much. I can't WAIT to read 'Valley of Gold'!

Hi,

To start with the last one first, sonic frequency isn't supposed to work well, and often not at all, though some

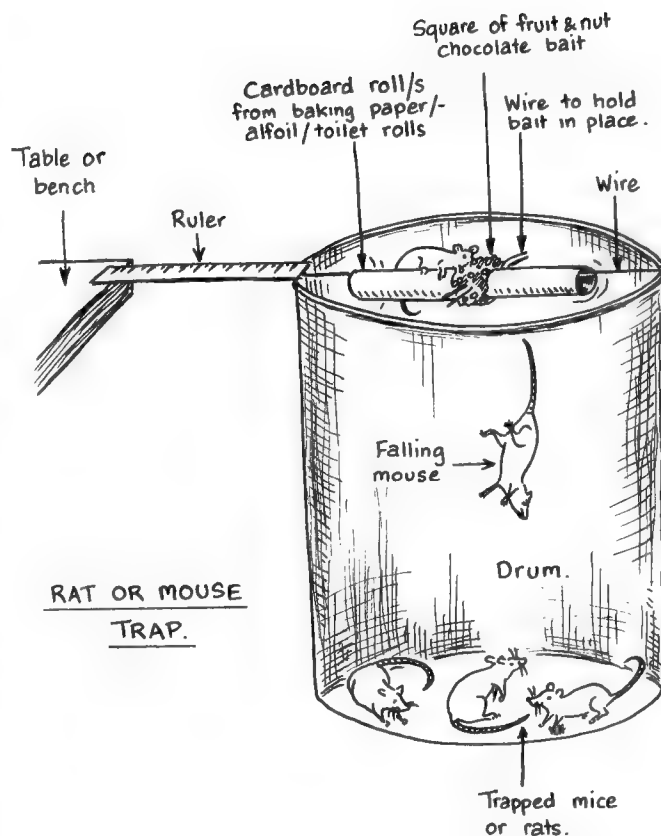
humans seem to be irritated by it. About chooks: it's possibly just the hot, dry weather — ours went off the lay all over summer too. Insulating the chook shed can help; also giving a higher protein mix than before while the hot weather lasts and making sure that the water is cool, not hot — which is not easy! We keep a dripper over ours which means the water is cooler than it would be if it just sat there.

Styrofoam boxes glued onto the chook shed so you get an air gap are an ugly but cheap way to insulate. Styrofoam egg cartons also work, but it's easier to get free styrofoam boxes from the supermarket. But some breeds of chooks do lay best in spring and autumn, and will go off the lay totally in hot summers. And as chooks get older they lay far less frequently and again, are far more prone to not laying at all if even slightly stressed. If your girls are over three that may very well be the problem.

About rats: we keep six traps permanently baited with choc-covered peanuts, all in a line along the wall where rats scuttle. Bryan has driven nails through the bases so there is a row of sharp pointy things all around the trap — this means the rats can't sneak in and get the bait: they have to reach their bodies over the nail heads to get it — which means one great ZAP which kills them, rather than a screaming wounded rat. Or make a live rat trap — see the diagram.

As for essential trees: a hedge of about ten to 12 dwarf apple trees (medium, very late and early) growing a metre apart, with rambling roses growing through them; one navel orange, one Valencia orange, one Eureka lemon, one Tahitian lime, three avocado trees along the back, left to grow giant (early, medium and late), chooks, passionfruit vine, asparagus bed, kiwi fruit along the fences (male and female), rhubarb, lemon verbena (because I love the tea), *ditto* ginger mint, *ditto* Greek oregano, thyme, peppermint, pineapple and fruit salad sage, enormous amounts of parsley, silver beet, garlic chives, and spring onions. If it's too hot for any but tropical apples varieties I'd add a couple of paw paws, a banana and a mango instead and make it a lillypilly hedge and come to think of it I'd have that in any climate — then take a deep breath and see what else I could fit in!

Which would be lots, even on a suburban block, if all fences are high with either climbers planted on them or hedged fruit trees. Climbers grown all over the house, hanging baskets of rhubarb and tomatoes and masses of flowers, lower limbs of some trees pruned so that shade tolerant green vegies can be grown underneath. Maybe a pond of water chestnuts — and year round flowers — would be an absolute essential, for me and the birds — constantly blooming grevilleas (hunt for those suitable to your area), and a range of camellias in cooler areas. Ornamental bananas in frost-free areas — I could go on with



The rat or mouse runs over the ruler onto the cardboard roll to get to the fruit and nut chocolate bait that's wired on (the bait keeps its delicious scent for weeks or months). The rat or mouse then falls into the drum.

pages just for one backyard! Just don't be afraid to hedge plants!

You can probably see that my favourites are all fairly common fruits — we do grow a vast range of others but the old popular ones probably still have the edge taste wise! Make a list of the fruit, vegies and flowers you adore, then work out which of these is immeasurably better homegrown, and easy to grow. I love edible wattle seeds, for example, but if I had limited space I wouldn't grow them because my homegrown product wouldn't be enormously superior to what I can buy. It's the same for chestnuts, macadamias and pineapples because they need fierce heat for true sweetness.

All the best, Jackie.

Easy tomato paste

Hi Jackie,

I am looking for a recipe for tomato paste. Also can you tell me can you use onions before they have dried off? And potatoes? I was hoping to make relish and sauce, but the tomatoes are very late this year (I live inland from Launceston at South Bridgenorth, Tasmania). We have just



Home made tomato paste: simmer chopped tomatoes till thick, dry them in the sun and roll into sticky balls, dip in oil and store in sealed refrigerated glass jars.

moved out to the country and have 30 acres, so it is all very new — bunnies and wallabies in the garden, and the chooks digging all my cuttings out after I've just put them in. Fortunately the vegie garden is well fenced; it's only the flowers that are struggling. And it is very dry, 1 mm rain for February here. Where are you situated? Hoping you can reply.

Thanks, Sharon Percy.

Yes Sharon,

You can definitely use onions before they dry off! They'll taste all the sweeter — baby onions are stunning — but they won't store as well as ones that have dried off, so just pull them up as you want to use them.

Onions are ready when the tops are dry. Pull them up and leave in the sun for a few days to harden and for the heat and sunlight to kill any fungi spores. Rub off any loose bits of skin and snip off the tops — or even better, plait them together and hang in a dark airy shed or even the kitchen if you're going to use them soon (kitchens are too moist and steamy to preserve onions for long — but they look good up on the wall for a couple of months).

Choose the best bulbs with no blemishes for long storage. The best way to store is hung up in a string bag or porous basket in a dark larder. Otherwise bung them in the back of the cupboard but make sure it is well ventilated. (If it's not attack it with a hammer — but don't try to store onions in a damp stuffy place. You'll end up with onion flavoured slime.)

Onion seed is simple to collect — just leave the best few onions in the ground and the second year it will go to flower (onion flowers attract a vast range of insect predators that will help control the pests in your garden) and then to seed. It's best to stake onions going to seed — they get tall and top heavy, and are inclined to fall over when you least expect it.

Pick the seeds when the stalk turns brown and the seeds turn black and the first few start popping out of their cases. Stick a paper bag over the head to catch the rest — they may keep ripening and dropping for several weeks. Don't worry if you collect seed capsules and other debris — just make that the seeds are dry, and store them in a COOL dry place. Onion seeds can last for up to five years (maybe more — I've only kept mine for five years) — but in hot humid areas they may only last a year or so — less if they get hot or moist. As onions are pollinated by insects, if you have more than one sort setting seed you may get an interesting cross. This doesn't mean however you can only grow one sort of onion — just only let one variety go to seed every year.

As for spuds — bandicoot them by wriggling your hand down to the roots to haul up 'new potatoes' — though beware of the odd spider or snake. Bandicooted spuds don't store well either — okay for weeks, but not months. I hope the following tomato recipes are useful.

All the best, Jackie.

PS: It's rained! Was pretty grim for a while!

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Tomato paste

Tomatoes can be grown inside in pots in winter; tomato bushes with unripened fruit should be hung in a sheltered spot to continue ripening over the next month. Most green tomatoes will gradually ripen indoors. You may get tomatoes all year round with the last two methods.

There are dozens of ways of making tomato paste. Try chopping the tomatoes, add no water and simmer till they are thick and bubbling like magma — great bursts of bubbles that spread over the kitchen. Spread the mixture on alfoil and leave in the sun till dry — take indoors in wet weather or at night. Now roll the sticky mixture into balls, dip each ball in a cup of oil and store in sealed glass jars in the fridge. Take out a ball as you need it. Otherwise just stuff the paste in a jar and cover the lot with oil — though this can give an uneven surface as you use it which may not be oil covered, so you can lose some of the paste to fungus.

If you don't want to dry the paste in the sun boil it down as far as possible with a tablespoon of white vinegar or half a teaspoon of citric acid for every four cups of tomatoes. Pack the thick purée into glass jars, then cover with a film of oil. Place the jars in the oven in a tray of water and cook till the water just boils. Leave till cool and seal.

The paste can be flavoured at the simmering stage with garlic, black pepper or very finely chopped basil or thyme.

Tomato sauce

6 kilos tomatoes
1 litre white vinegar
1 kilo chopped onions, sautéed till soft in a little oil
150 grams sugar
10 cloves chopped garlic
teaspoon ground ginger
pepper and salt to taste.

Boil for two hours, strain through a sieve. Bottle. A little melted clarified butter or lard (the traditional sealer) on top before sealing will help it to keep longer and keep the colour brighter.

Dried tomatoes

Home dried tomatoes still taste of the sun. Halve or quarter your tomatoes, spread them in the sun on alfoil on a very hot day. Take them in at night. They should be dry in about three days, depending on the amount of sunlight. Layer them in a jar and cover with olive oil. You can add fresh basil and garlic to the oil to taste. I add dried tomatoes:

- roughly chopped to winter salads;
- whole with artichokes, potatoes and mayonnaise;
- with camembert and lettuce and vinaigrette dressing;
- and cooked in about a hundred ways.

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Uncommon Fruits & Vegies

Founding editor of *Earth Garden*, Keith Smith, continues his regular column about the history — and how to grow — fascinating fruit and vegetables you won't find at your supermarket.



Tangy citrus, pips and all

IT'S STRANGE to think that nobody in Britain ever savoured a mandarin (or mandarin orange) until early in the nineteenth century. Although mentioned in the *Chu-lu* (Monograph of Citrus), written in Chenkiang, China, in 1178, mandarins were first introduced to England in 1805. Mandarins originate in the Philippines and other parts of southeast Asia, while oranges are indigenous to South China and Vietnam. Sweet oranges (*Citrus sinensis*) arrived in northern Europe in the fifteenth century after Vasco da Gama brought seedlings to Portugal in 1497 from stock he obtained at Mombasa in Africa.

Sweet oranges, mandarins and tangerines were all growing in Australia by 1824, according to the *Sydney Gazette* (22 April 1824). In 1827 Governor Lachlan Macquarie's botanist, Charles Fraser, listed 'Common', 'Fang-Kau Lioan' (a superior kind), 'Tua-Kat' (with few seeds) and 'Chu-Cha-Kud' (sweet with bright red skin) mandarin varieties in *A Catalogue of Fruits cultivated in the Government Gardens at Sydney in New South Wales*.

Mandarins and tangerines have thin, loose skin that is easy to peel and quarter, but they are often full of pips. They bear their vivid red-orange sweet and spicy fruit with fragrant peel or skin in late autumn and winter. Citrus hybridise easily and many varieties of mandarins were developed over centuries. They were most intensively cultured after their introduction to Florida in the United States of America in the late nineteenth and early twentieth centuries.

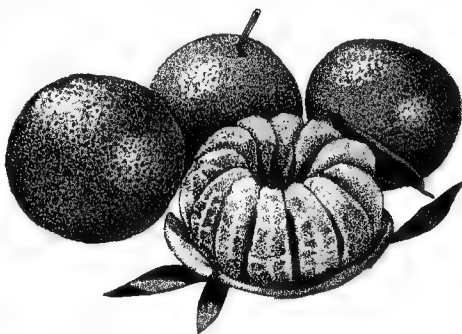
Growing

Mandarins, satsumas, tangerines, tangelos and tangors should be grown and cared for in the same way as oranges. They need good rainfall or irrigation and well-drained, deep loamy soil. They succeed best in arid, dry Mediterranean, tropical and sub-tropical climates with warm winters, but are cold hardy if protected from frosts. Add dolo-

mite, lime or ground limestone to make bush soils more alkaline. Be sparing with nitrogen fertiliser which may cause mandarin brown spot and mandarin scald. Liquid seaweed is highly recommended. Use dormant oil sprays against red mite and aphids.

The most common rootstock for this citrus group is trifoliolate orange (*Poncirus trifoliata*) or sour orange and sometimes 'Cleopatra' tangerine or 'Emperor' mandarin, which resist root rot and *Phytophthora*.

Mandarins and their hybrids will stand more hot weather than other types of citrus. Trees are bushy and foliage tends to droop, because branches are long and willowy and break under a heavy load of fruit unless they are propped up. Most mandarins are self-fruitful and tend to produce biennial crops, that is, a heavy crop every second year. They thrive in Western Australia.



Mandarins need good rainfall or irrigation and well-drained, deep loamy soil.

Try to obtain mandarins grown on trifoliolate stock like 'Flying Dragon' if you want smaller trees. 'Ellendale' ('Ellendale Beauty') is a mandarin X orange cross with large, juicy fruit developed by Mr G A Burgess near Burrum, Queensland, about 1878. It's a late winter bearer. 'Emperor' ('Emperor of Canton') bears a large mandarin with a bumpy surface, reddish skin and sweet, juicy fruit with a few seeds. It's the best for home gar-

dens. 'Thorny' is an ornamental tree with medium-sized, flat fruit, juicy flesh and good flavour. It bears prolifically in alternate years.

Satsuma

Satsumas, mandarin oranges from the former province of Kyushu Island in Japan, form a separate citrus group. The trees are bushy, with spreading branches and medium-sized fruit, mainly seedless, with smooth skin. They ripen early and are cold-hardy on trifoliolate stock. 'Satsuma' (often classed as a tangerine) is sometimes called 'Emerald Green' because of the green-orange colour of the fruit. They bear well in cooler climates, but fruit will dry out if

left too long on the tree. 'Owari', one of the best satsumas, is orange-yellow, juicy, almost seedless and cold hardy on trifoliate orange stock. 'Unshu' ('Unshui' or 'Oonshiu') is a flat fruited satsuma (some say tangerine) with pebbly skin.

Tangerine (*Citrus nobilis deliciosa*)

People who live in Tangier, at the northern tip of Morocco opposite Spain, are called Tangerines.

So are the beautiful small, rich red mandarin oranges that were developed there. Tangerine also describes the deep orange-red colour of the fruit. These fruit ripen earlier than most oranges on a beautiful tree with dark green, glossy foliage. Skin is loose, sweet smelling and easily peeled, but there are usually a few seeds to spit out. 'Dancy' descends from the first tangerine introduced to Florida in 1867 from seedlings shipped from Tangier. Its medium sized orange-red fruit mature in mid-winter. These trees succeed better in warm places.

'China' is a tangerine that grows on either trifoliate orange or 'Cleopatra' mandarin stock. Trees tends to be vinous, with soft, willowy foliage, but fruits have a true tangerine taste. 'Clementine' ('Algerian') originated in Algeria and was introduced to Florida in 1909. The fruit is a deep red-orange, maturing earlier than 'Dancy'. They are smaller and will keep better on the tree. It's also classed as a mandarin. 'Cleopatra' is a juicy but 'spicy' tasting tangerine, though some call it a mandarin. Fruit are small and dark orange in colour, with about 20 seeds. 'Cleopatra' is valued for use as a rootstock for other types of citrus. 'Fortune', a hybrid of 'Clementine' and 'Dancy', matures in late winter or spring. 'Ponkan' ('Suntara') or 'Chinese honey orange' is treasured in Asia.

Tangelo

Tangelos are hybrids of grapefruit (*Citrus paradisi*) and tangerines. They look like grapefruit, but are smaller be-

cause they were bred to be grapefruit that you could eat from your hand. Many are aromatic. 'Ambersweet', a tangerine X tangelo hybrid, looks like an orange, but is classed as a tangelo. 'Minneola' ('Honeybelle') a hybrid of 'Dancy' tangerine X 'Duncan' grapefruit, was introduced in 1931 by the Agricultural Department of Florida.

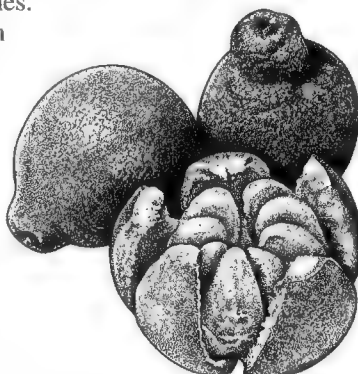
It has bright orange-red skin and a distinctive knobbly bump at the neck or stem end. The fruit are juicy, with a sweet-and-sour grapefruit flavour. In Australia, this variety grows better inland than on the coast. Trees can be very large and need extra space. It ripens in late winter.

'Orlando' ('Lake') is similar to Minneola, bearing medium-sized fruit with acid-sweet flavour, rather like a seedy orange. Leaves are 'cupped' rather than straight. It requires pollination. 'Page', classed as an orange, is a tangelo hybrid. 'Sampson' has chrome yellow rather loose skin, with about ten to 15 seeds in each small to medium sized fruit. It resembles a grapefruit but is sweeter, yet still has a slight bitterness. 'Seminole' has elongated orange-red fruit and bright orange flesh. They are juicy with a flavour

midway between grapefruit and mandarin and just a few pips and mature in late autumn. 'Thornton' bears large orange fruit with loose skin and just a few seeds. The taste is sub-acid, but not bitter.

Tangor

Tangors are tangerine X sweet orange (*Citrus sinensis*) hybrids, similar to mandarins, but with many characteristics of sweet oranges. 'Murcott' is a thin-skinned, prolifically bearing tangor introduced to the United States in 1916. Also called 'Money Mandarin' and sometimes classed as a 'honey orange' or tangerine. It's a late bearer. 'Temple' (Temple Orange) is a tangor that originated in Jamaica in the West Indies and was introduced to Florida in 1896, but not named until 1919.



In Australia, hybrid tangelos like 'Minneola' ('Honeybelle') grow better inland than on the coast.

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Jillaroo Farm Hints

Edited and illustrated by Jill Redwood

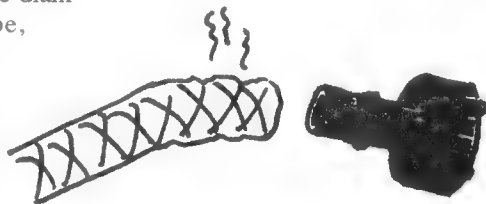
How do you join poly pipe easily? Ask Jill. How do you make a cheap metal drum cutter? Ask Jill. These and other hints are found in these pages. Jill welcomes correspondence from readers. write to Jill Redwood, Private Bag 3, Orbost, Vic, 3888. Email: <croeg@bigpond.com>.



Flexible poly pipe joins

If you've struggled with fixing joiners onto aging and unyielding hose or stiff poly pipe, here's the easy solution. This is an especially useful hint in winter when these things are cold and stiff as a board. Boil the kettle, fill a thermos, take it out to the job and dip the hose end into the boiling water for five to ten seconds.

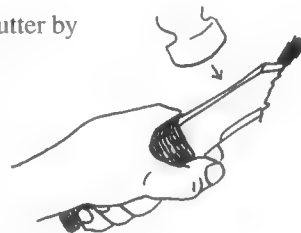
If you have large diameter poly pipe, pour the hot water into the cup and give the end a soak or else slowly pour it over the pipe end until it's softer. Quickly shove the joiner in the softened end and there won't be any arguments from it.



right against the fence). Or if you're really keen, build a proper hay crib that you can chuck this stuff into. Now we're all paying through the nose for stock feed, this effort might save you precious hay and money. A catch tray under the crib saves a good percentage as well. Stock just have no appreciation of the value of precious food! If only we could have an equivalent set up to curb human waste and indulgence.

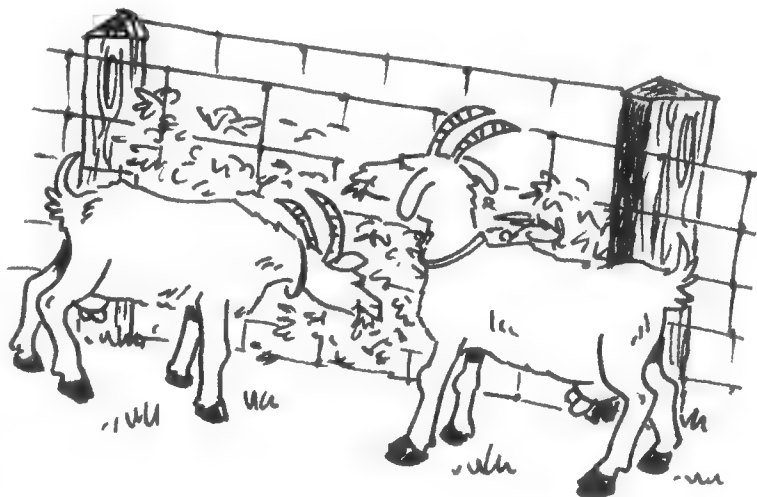
Instant drum cutter

You can make a drum cutter by sharpening a piece of spring steel or mild flat steel. After an edge has been put on, the softer metals might need to be heated to a blue or purple colour and dunked in water to harden the metal. This is a simple version of a complicated process but it should work. Bung a wooden or dense foam or rubber handle on the



Saving trampled hay

When feeding your goats hay, prunings, end of season corn stalks, broad bean plants and so on, they have a wasteful habit of stomping over the stuff while trying to find the best morsels. Then they'll refuse to eat these dirty bits. Contrary to what all the story books say, they are very fussy about their food and *won't* eat anything and everything within reach (unless kept tethered until starving). If another goat sniffs it first or it's been stood upon, it's off the menu. Here are a few solutions. Lie the hay or greenery close along the outside of the fence so they can only stick their heads through to eat it (if you have ringlock or hinged joint type fencing that is — and if the goats don't have handlebar horns). Or tack up another piece of wire between posts so you can sandwich the herbage between the inner and outer layers of fence (the handlebar horns can then reach it as it's squashed



unsharpened end as a shock absorber. This will cut drums in half easily. If you want to cut curves rather than straight lines make sure the end is tapered.*

Esky humili-crib

Putting a hot water bottle under a chicken or orphaned baby is always a bit hit and miss. They might cook or they might chill. If the little one is active enough to move about, stick them in an esky with an insulating layer on the bottom and fill a plastic bottle with hot water. Put a thick sock over this and leave it in a corner. The baby should snuggle up to it if cold or move away if it's too hot. The small lunch box sized eskies are handy for this. You can put the lid on or cover it with a blanket or towel.



Cook rice in the fridge!

Rice can be 'cooked' in the fridge. Cover the rice in cold water plus an inch (25 mm), and place it in the fridge overnight. By the morning the rice has absorbed the water and can be heated up or added to dishes.



Waxing frizzy laces

Do you suffer from frizzy bootlace ends? Dip the ends in candle wax and shape so they fit through the eyelets.

**Editor's note: if you cut a drum that's ever contained flammable liquids, always fill it with water first because sparks can ignite the fuel vapour and blow you to kingdom come.*

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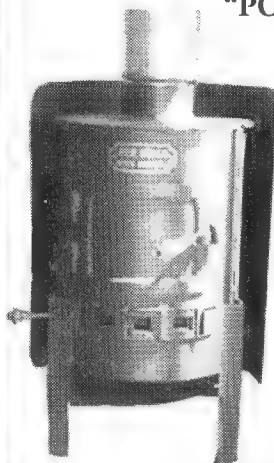
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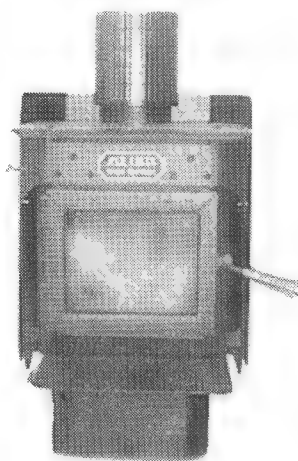


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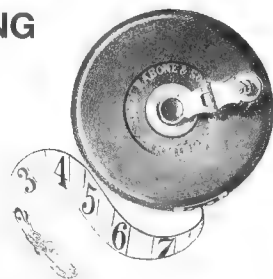
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Poured earth council hassles

Dear Bob,

We are intending building a poured earth home in Murchison, Victoria, and are having problems with a north Victorian council building department. They claim they can find no reference to poured earth building. Because of a crushed vertebra in my back we chose not to use the mudbrick method and the associated multi handling required. The *in situ* pouring seemed the way to go, especially as I have a large concrete mixer and a front end loader.

Our design is open style with the building 17 m X 11.5 m. We have poured our slab and propose to pour the walls (load bearing) 300 mm wide and making each pour (after the corners are set up) 300 mm wide, 600 mm long and about 150 mm high. We have good building soil but are not sure if it is possible to use calcined gypsum instead of cement as a stabilising agent because the cement causes shrinkage and a small amount of cracking. Also, the gypsum (plaster of Paris) allows the mix to set within an hour (variable with retardant).

Another problem that is worrying us is the new insulation regulation from the first of June. Does that mean our thickness of wall is no longer acceptable? We will not be using power for heating so we cannot reduce our consumption any more. I had thought of pouring the mix and have sections of styrene foam in the middle, approximately 35 mm thick but not the full length of each pour. I don't know if that would compromise the load bearing capacity of the walls. Could you please advise us on the best way to attack our problem and your fee charges.

Regards Das and Bev Yuille.

Dear Bev and Das,

My *Earth Garden Building Book: Design and build your own house* has a chapter on poured earth but it is

referred to by its technical name, 'formwork cob'. Show that to your council person. This technique produces walls that are STRONGER than mudbrick — as strong as rammed earth. If the council were to refuse a permit and you appealed to the Building Referees, they would grant you permission, provided of course that the other aspects of your design were correct.

I have never used gypsum as a stabiliser in an earth wall. However, there is a general approach for assessing any technique. Make a number of sample walls. One could be just the plain soil, the others with increasing proportions of your additive. Let the samples thoroughly cure, then subject them to a few tests: scratch them hard with a ten cm nail (it should not be able to make a groove deeper than 6 mm); thump it with the back of an axe, or if you prefer to be scientific, apply a measured impulsive force; and rub the surface hard to see how powdery it is.

You could try adding both cement and lime to the soil. The lime fills the spaces between cement-coated particles, and so may reduce cracking.

Insulation is an excellent idea. I have built a poured earth house where the walls are about 50 per cent air pockets. Each air pocket is surrounded by an empty glass bottle. The bottles are at least 5 cm from the faces, and at least 2.5 cm from each other. After pouring in the mix, I agitated it next to the two forms, so that the faces are good and hard.

When one of the walls was part completed, a tree fell on it, providing some accidental testing. It stood up at least as well as a solid wall would have. I think that a sheet of insulating material up the middle of the wall would also be alright. I would make regular holes in it, so that the two halves are joined in many places. Thermal leakage is additive, so that the total effect should still be good. Again, it would pay to do a test. Build a sample wall this way then see what forces it stands up to.



As for fee charges, they are zero if you don't mind this question and answer (without your address) appearing in *Earth Garden* magazine. Good luck with your project. Let me know how you go with it.
Bob.

Building code sux

Hi Bob,

Major disappointment for us this morning: our drafter tells us that we can't use recycled windows in our new house. Something to do with wind velocity. It was to be not just a huge cost saving to us but we're also keen not to overuse precious resources. The council is forcing people to spend more money and waste material. Gees I'm mad. There must be a way around this. Do you have any advice?

Cheers (kind of), Sue.

Dear Sue,

I don't know which State you live in, but I suspect all of them operate in a similar way. In Victoria, there are the Building Referees, which is a State Government instrumentality. Their one concern is safety. Since the introduction of the Australia Building Regulations, what you can do is performance based. It is alright to do something out of the ordinary, but if the council disallows it, you have to be able to prove that what you want to do will perform at least as well as the standard solution.

So, if you have access to secondhand windows you intend to buy, you need to have them inspected by an engineer who can calculate whether they would stand up to wind forces as well as new ones would. Naturally, engineers ask for money, so this probably negates the cost saving from buying secondhand. It may be the case that your house design needs engineering calculations anyway, for some other feature, in which case a sympathetic engineer might throw in the window calculations for nothing.

There is another possibility that may work. If you have access to nice, solid, rot-free secondhand windows, you can show them to the building inspectors, and convince them that they are as safe as new ones. In fact, old

Sue and Peter's fears of council inefficiency were quickly realised...



stuff was built of better timber, using better craftsmanship, and could be STRONGER than new ones.
Good luck with your project, Bob.

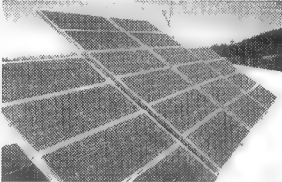


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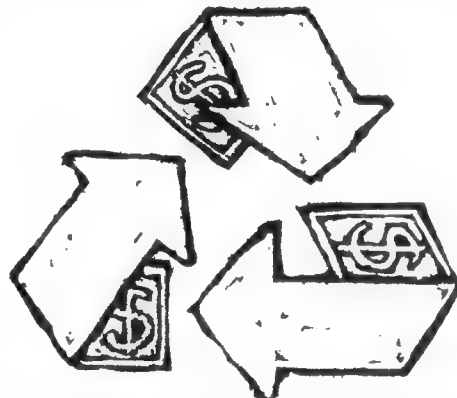


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Organic Tree Farming

Earth Garden publisher, Judith Gray, describes how her family tree farming project has successfully 'beaten the weeds'. After one year of growth many of her thousands of trees have gone from shin high to well over head high — all organically.

by Judith Gray
Trentham, Victoria.

IF YOU'VE ever looked into growing trees in any numbers, you'll have discovered that appropriate species selection, ground preparation and weed control are the most important elements of a successful project. It doesn't really matter if your project is for wildlife, wind breaks or timber, without proper attention to the three essentials you may find yourself the proud owner of a tree guard and exotic grass landscape (with very little else growing).

I want to explain how we went about creating a tree farm organically. Our intention is to grow timber for clear wood production. Our trees will be harvested on a rotational basis, beginning in about 20 years time (all things going to plan!).

I believe very strongly that timber should be farmed and not come from our remnant native forests. Ours is a mixed species plantation. It is very important to note that fallen trees, dead standing trees, and existing paddock trees were not disturbed: they offer potential habitat for much needed birds, insects and hopefully mammals in the future.

Choosing the right species for our site

Choosing the right species started with a little research into our immediate climatic conditions. Trentham is the home of frosts and we have a wonderful rainfall of 1150 mm per annum (in 'normal' years). Couple this with excellent volcanic soil and we have a really desirable situation for timber production.

Then I started gathering and reading material on eucalyptus and acacia species currently being farmed around the country. By doing a short course through the local Landcare centre, then The Master Tree Grower's Course, and talking to locals and nurseries, I put together a list of possible timber-producing species suitable for our site. I rated each species according to site suitability and marketability. For example I knew *Eucalyptus nitens* (shining gum) would grow

well in our environment and it is a well known timber. It got a 1-1 whereas *Acacia dealbata* (a Tasmanian silver wattle) was rated 1-2 — perfect for the site but not a well-known plantation timber. My aim was to grow as many 1-1 species as possible.

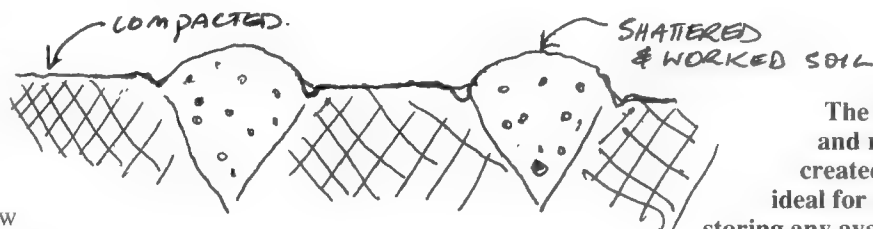
My final list is as follows:

Eucalyptus macrorhyncha — red stringybark
Eucalyptus polyanthemos — red box
Eucalyptus occidentalis — swamp yate
Eucalyptus lypellocarpa — yellow stringybark
Eucalyptus botryoides — southern mahogany
Eucalyptus saligna — Sydney blue gum
Eucalyptus nitens — shining gum
Acacia melanoxylon — blackwood
Acacia mearnsii — black wattle
Acacia dealbata — silver wattle.

We also planted a mix of local eucalypts and wattles around the perimeter of the paddock as a shelter belt. I suggest you do your species research up to 18 months ahead of your anticipated planting time so you can order the seedlings from different nurseries or germinate your own seed and have the seedlings ready at the perfect planting time. For instance, we collected our own blackwood seeds and had them germinated by a specialist nursery.

Ground preparation

Site preparation is the key to a successful project, especially if you are growing organically. We needed our trees to 'get up' quickly to avoid competition with any weeds. We started by marking out our rows and deep ripping the ground in March. At this time of year it was still dry enough to shatter the ground. The soil was then rotary hoed and mounded. This created a deep bed ideal for catching and storing any available water while developing a good tilth to plant the seedlings into.



The ripped, hoed and mounded soil created a deep bed, ideal for catching and storing any available water.



Judith tends to a seedling eucalypt the day it was planted in February 2002.

Weed control

With much debate surrounding Roundup a chemical solution was not an option for us. Roundup has recently been linked to statistically significant increases in birth defects, a tripling of neurodevelopmental (attention deficit) disorders, and may interfere with a protein which modulates the production of testosterone, adrenal hormone, carbohydrate metabolism, and immune system function (see page 9 of EG 123 for references).

I guess the question is how did farmers manage weeds before the quick fix solution became available in a bottle? The answer is simple. By tilling the soil, weeds are killed and used to create a mulch. We tilled by Alan spending many hours rotary hoeing the mounded rows of (now) weedy grass with his much-loved old Massey Ferguson 165! The tilth then becomes a protective blanket. Allowing weeds to germinate and tilling them before they reach maturity is a good way to reduce the seed bank and enhance this 'blanket'.

Timing is the second element of weed control. This protective blanket can be used to protect a reservoir of spring rain under the surface that can be made available to tree seedlings. By timing your tilling, you can knock down weeds through spring, then plant out trees when the moisture is still available for deeper roots.

We used this theory to our advantage. By combining this with a small square jute mat for each seedling, we got through our first autumn-winter without many losses.

By the time spring arrived our trees were looking good. But we certainly didn't let up on weed control. Alan and Tane worked hard to mulch every tree with 70 year old weathered saw dust.

This was followed up with some serious tractor work. Alan mulched between the rows driving as close as he could to each tree. His mulcher is a 2 metre wide machine which cuts the grass with 100 'hammer blades' compared with a normal slasher which cuts the grass once and can leave 'wind rows'. This mulching reduced the weed competition enormously. Tane had one last crack at the weeds (what little there now were) with the whipper snipper.

One year on

Now the trees are between shoulder and head height. At only 13 months old, I can confidently say we have beaten the weeds with surprisingly little effort, and zero chemicals. It has most certainly paid off. Here's how the order of events unfolded.

1. March: rows were marked out, ground was deep ripped, rotary hoed and mounded. This shatters the ground and presents the soil for further cultivating which creates a deep bed for planting.
2. After the autumn break (around May) germinating seeds and perennials were rotary hoed back into the soil, reducing the available seed bank. This was repeated before the winter rain.

3. Winter was a time to leave the tractor in the shed and read books.
4. In early summer the ground (rip lines) were cultivated (rotary-hoed) again.
5. For various reasons the planting was very late. Our intention was to plant in December, but we ended up planting in February!
6. Our seedlings were planted into the heavily worked soil. Each tree was given a weed mat, tree guard, stake and plenty of water on the day, by our life-saving tree contractor Dave Griffiths of Geometree, in Maldon* and his workaholic offsidiers, Josh and Steve.
7. The trees were given a follow up water in April by which time they were growing well.
8. Spring: after weathering their first winter the trees were hand mulched with saw dust. Surrounding grass was mulched mechanically. This was followed up with some whipper snipper work.



9. A tractor-drawn mulcher (not slasher) passing within 50-100 mm of each tree guard covered the whole paddock in late December/early January to kill weed competition.

Natural pest control

The three essentials discussed in this article are all well and good, but without natural pest control to supplement natural weed control, your organic tree crop can be eaten to a stubble by marauding wallabies and rabbits. In part two of this article Judith will tackle the thorny issues of her approach to natural pest control.

**Dave Griffiths of Geometree can be contacted on 0418 591 267. Konrad Ensor of 'A Land Shape' (phone (03) 5444 0150) can help with any planning or contour mapping, and works with Dave Griffiths.*

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Teikei Organics is a CSA farm nestled among bushland near Castlemaine in central Victoria.

Community Supported Agriculture sprouts in Australia

Community Supported Agriculture (CSA) is a system of food production and supply that's been running for over 20 years and involves more than 16 million people. As Jodi explains, the consumer pays the farmer up front to provide a weekly basket of organic vegetables.

by Jodi Turnbull
Prahran, Victoria.

COMMUNITY Supported Agriculture is a new approach to growing, selling, buying and consuming food. The consumer buys directly from the farmer in a CSA, thus simplifying the relationship between people and their food source. It's similar to traditional, self-sufficient community practices.

So what's new about that, you say? Through CSA the consumer buys a share in the season's produce. To put it another way, the consumer pays the farmer up front to provide a weekly basket of organic vegetables for a season or a year. It's about the community and its relationships with the farmer, consumer and the land.

CSA farms provide the focal point for education and community building and the community is invited to join field days, work days, harvest festivals and celebrations. These provide opportunities for (especially urban) families to share and learn about food and farming together in a rural setting. Children have a very special place on CSA farms and many offer activities organised especially for young members.

How does CSA work?

Individuals, couples or families become members of a CSA farm by purchasing a share in the season's produce. One share is generally enough to feed a family of four, and half or partial shares are available. The food is harvested weekly, divided into baskets and then picked up by the customer from the farm or at a central pick-up point. The

price of the share is simply the farm's operating budget divided amongst members. In general, the food received is more economical than the cost of local organic produce found at farmers' markets and retail stores. The shares are paid for in advance, providing the farm with capital to help with season start up costs such as seeds, greenhouse supplies, tools, equipment, labour and so on.

Why support CSA?

Why support CSA when we can already buy organic produce in the supermarket, various retail outlets and markets?

1. CSA is sustainable and philosophically sound. Supporting a CSA contributes to a philosophically sound, smallscale, community orientated produce system which, according to many researchers, is the only long-term sustainable system for the future.*

Organics are the fastest growing sector in the food industry worldwide. Even though the term 'organic' seems to suggest sustainability, our increasing demand for organic produce is leading to a largescale, industrial, organic monoculture which is becoming as impersonal, and as politically and economically driven as conventional production.

When consumers purchase produce at supermarkets, health food stores or even farmers' markets they pay not only for the food but hidden costs such as transport and storage, and environmental restoration caused by industrial damage such as pollution from pesticides, silting, salination and so on.

2. CSA supports farmers and local communities. Let's



Volunteer day at Teikei Organics.

face it, small farmers lose out in bad seasons and in good seasons when a glut leads to price falls. Our current system, including buying direct from the farmer at markets, does not support that farmer throughout seasonal or annual variables. Supporters of CSA share the risks of food production along with the farmer. If the growing season is poor, the baskets may have less variety, but in good seasons members share in the abundance.

By buying shares in the season's produce the members have a say in what is produced and how, with regards to the environment and community, dollars are kept in the local area. Local farmers are supported and can earn fair, secure wages. A CSA can even strengthen communities by providing a focal point for education and community building.

3. CSA is healthy for body and soul. You can't get healthier food than fresh, chemical free, seasonal produce. A CSA farm delivers this. Members participate in decisions about what to produce, and how it is grown and in supporting a CSA they gain peace of mind.

CSA around the world

CSA began in Japan in 1965 and has grown into a system of production and distribution that supplies many millions of people. The economic, political and environmental climate in Japan in 1965 was such that good quality, unpolluted food was difficult or expensive to obtain. A group of mothers, driven by the basic need to have good food for their families, approached local farmers to grow organic food for them. The farmers agreed on the condition that the consumers would share the inherent risks in food production and community supported agriculture was born. Japan now has more than 660 producer-consumer groups (CSAs). The idea is growing in America and Canada where, since 1986, over 1000 farms now provide food for many thousands of families. In Australia there are currently only four CSA farms: two in New South Wales, one in Tasmania and one in Victoria supplying in total over 100 families and many restaurants. Each CSA farm is as individual as the community, environment and climate around it.

Teikei Organics: a CSA farm in Castlemaine, Victoria

Teikei is a family run business and is the newest CSA in Australia. It is situated within an existing permaculture property. Phil Hansen cleverly incorporated the CSA produce into the farm's established system, thus minimising outlay and extensive land preparation. With a hot summer and very cool winter Teikei has developed strategies to ensure year round variety.

In the spring and summer growing season members can expect in their baskets produce such as berries, fruit, free-range duck and chook eggs, kitchen herbs and vegetables such as various varieties of tomatoes, eggplant, beet-root, chillies, cucumbers, squash, Hungarian wax peppers,

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paak tsoi, leek and more.

Some of the summer's bounty is preserved, and is added to winter baskets. Although these change from season to season the preserves often include jams, chutneys, tomatoes, sauces and preserved fruits. Phil is not afraid to try new things and often includes Japanese or Thai inspired vegetable pickles and members eagerly await the next basket of goodies. The 2002 batch of shiraz juice is exquisite and Phil's salad mix is rapidly gaining a reputation around town. Winter produce due to Castlemaine's climate includes lacinto kale, lettuce, cherry tomatoes, persimmons, spring onions, icicle radish, mixed salad, pumpkin, bok choy and broccoli.

Food can be picked up from the farm once a week or at a central point in Castlemaine. For a small service fee there is also home delivery. Members are welcome to harvest their own food, and Phil welcomes any family involvement. Once a season Teikei has a working festival full of fun, composting, planting, reaping and feasting. Phil encourages interested people to join for a trial six week period to see if the system works for them.

Phil sees the challenge for CSA in Australia as one of educating the community about long term benefits of supporting smallscale systems and that to develop truly responsible communities there must be a sharing of responsibilities and risks. Readers are welcome to contact Phil on (03) 5473 4531 (AH) for more information.

References

*Transcript from Radio National *Earthbeat* program, 'Expanding Organic Industry faces Big Challenges', John Ilkurd, Professor of Agricultural Economics, University of Missouri, broadcast 1/09/01.

Feasibility of Community Supported Agriculture in Australia, Adrian Parker, 2001, Department of Natural Resources and Environment (DSE), Melbourne.

A recent report by Friends Of the Earth Brisbane describes a vision of CSA in Australia. The summary and full report can be downloaded from <www.brisbane.foe.org.au>.



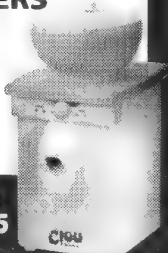
Ducks free-range around the Teikei Organics farm. Phil found 20 ducklings hiding among the broccoli last spring.

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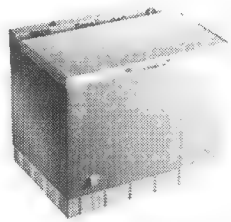
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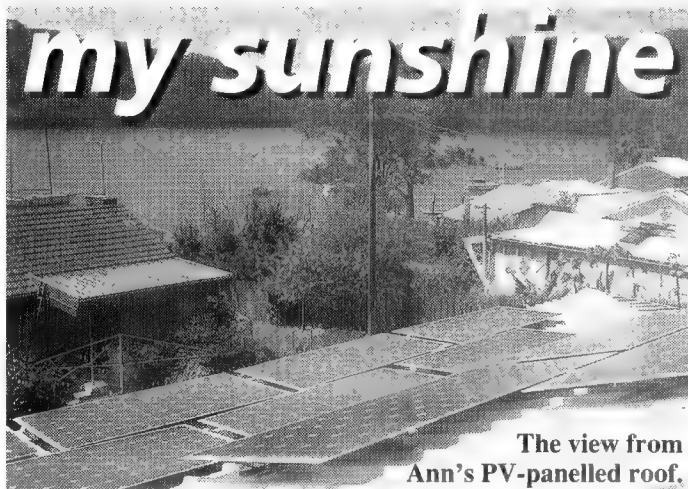


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You are *my sunshine*

Ann describes how she's installed a grid-connected solar electric power station on the roof of her weekender on an island near Sydney. The system tells her exactly how much energy she's generating (and selling back to the grid!) and how much she's helping the environment by saving Greenhouse gases. Oh, and Jimmy plays in a band.



The view from Ann's PV-panelled roof.

by Ann Howard

North Sydney, New South Wales.

WELL, we've found our slice of heaven, within reasonable distance of Sydney but with no traffic. We can't live there continuously because we have to make a buck, but when we're not there, we can dream and plan for when we will. We do have a permanent resident now: Mr Smiley. He smiles when the sun shines as he sends electricity back to the grid at 9.71c per kilowatthour with no GST.

I have lived lightly and saved all my life, taught by my father, before today's eco-terminology. He learned to save and invent during the Depression in London. Strangely enough, he also learned good survival skills from the British Army when he wasn't being taught less attractive things.

On yearly camping trips in England, he showed us how to leave a field as though we'd never stayed there. We drank boiled well-water, washed in creeks, cooked blackberries, mushrooms and fresh farm fare on fires of fallen wood, sleeping on hay-filled bags, our clean clothes in pillow cases. He knew the importance of facing the tent in the best direction, away from trees. He used to insist on hip-holes dug in the sleeping area, even if we were setting up the tent in rain. Many were the giggles when we dived into the hay to feel our knees filling the holes because we were facing the wrong way.

Our slice of heaven in Australia was built in 1887. We could see straight away the old people had the same know-how. The house faces north east, and windows and doors are positioned to catch evening river breezes. The ceilingless centre room allows air to rise seven metres (22 feet). The smaller rooms around the centre can be opened up or closed.

We've put a lot of thought into making an intelligent house. Some things were initially expensive but most involved recycled, free or cheap materials (family motto: "Never pay retail!").

To keep cool, we: installed a large ceiling fan;

painted the roof surface with ceramic paint from NASA, developed to prevent nose cones of space rockets burning up on re-entry (result about 9 degrees drop in temperature inside); hung recycled linen blinds outside north facing windows; stuck squares of light sensitive film on the outside of windows facing north in summer (huge rolls a few dollars at Recycled Garbage, Marrickville); hung timber slat blinds inside the windows; and lined the walls and floors with double-sided, heat reflective paper. These measures give us great flexibility to combat heat.

Free solar power

To use free solar power, we: use a solar oven, from a free design on the web (protect your eyes, no, really!); placed mirrors and mirror balls at angles to maximise winter light inside; installed light tubes; installed washing lines in the sunniest patch of garden; and installed a solar shower in a tree for dirty gardeners or beach people.

To minimise on electricity, we: cook in a straw filled box, with a solar oven, on a BBQ or the pot belly stove; use a hand cranking washing machine for small things; sweep as well as vacuum; have solar lights in the garden at night; use candle light for suppers, and a pot belly stove for warmth; sleep with two dogs for warmth; and have a solar fan in the loo.

BUT you still need electricity for computers, music, phones, some washing, ironing, cooking and lighting. We've always believed in solar power. I had an early model which paid for itself, gave us years of cheap power when the children were young, and then brought in more than I originally paid for it. The problem was it was large and heavy.

Our solar system

I researched our recently installed system and would like to share my findings. After speaking to Pacific Solar's salespeople, I was attracted by the fact that I could specify the size I want (the system is modular), the government gives a rebate, that my generated electricity is GST free, that Energy Australia already have an energy purchase

section set up on my bill clearly displaying my buy back figures, and that it is established and recommended by other householders Australia wide.

Each module has three main components:

1. a conventional photovoltaic (PV) panel;
2. a unique, grid-interactive module inverter; and
3. an innovative, purpose-designed, rooftop mounting and wiring system.

Together they form a modular rooftop PV system for direct connection to the local electricity grid through the house wiring. Each panel is twice as long as it is wide and has no need for a perimeter frame because of the innovative way it attaches to rooftops.

Each module inverter mounts directly behind each PV panel to: connect to the PV panel and adjacent inverters by preformed plug and socket cabling, enabling high speed installation by trained roofers; convert the direct current (DC) output of the PV panel to the local alternating current (AC) of the house (or building); and optimise the power output from each PV panel even under poor lighting conditions.

The Australian Greenhouse Office (AGO) used to offer cash rebates from the Commonwealth Government for PV systems in Australia, and may again in the future. The Sustainable Energy Development Authority (SEDA) offers rebates for PV systems installed in NSW.

Useful phone numbers

NSW	SEDA	02 9249 6100
SA	SA Energy	08 8226 5680
QLD	EPA	07 3224 6593
VIC	SEA	03 9655 3275
WA	Office of Energy	08 9420 5600
TAS	IEMC	03 6237 3527
ACT & NT	AGO	02 6274 1798

So I ordered one

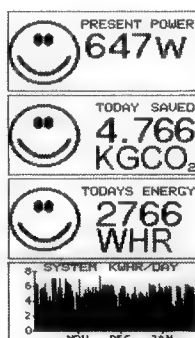
Adam, the Pacific Solar salesperson, sat down with us and listed every appliance and how often we needed to use it. All households have changing needs. My children are having their babies now, so we've put in air conditioning just for those really terrible days of heat and smoke which are trying for visiting youngsters. We then calculated how many modules we needed to run those appliances free. As we are not at the house full-time, while we are away, Mr Smiley is smiling away as we clock up the kilowatthours.

Enter the team

Two roof plumbers (Nigel and Todd Herman), one builder (Alex Gravasie), and one boat driver/sandstone master (Steve Mandile) arrived, more or less carrying two



The Sunlogger sits on Ann's study wall.



The Sunlogger shows present power, how many kgs of CO₂ saved, today's energy generated, and the history of kilowatt-hours saved.

systems under their arm — ours and a neighbour's, who has bought on my recommendation. I couldn't believe how light it was.

"Great place you've got here. Greens member, Jimmy Shaw, has come along with us as an observer".

"I'm in a band. Play jazz," said Jimmy.

I made some good coffee, and scones and jam for them because they had travelled a long way (and it always pays to stay on the right side of builders). Jimmy helped me tie bundles of fallen fir needles to a garden arch, admired my permaculture vegie patch, nodded his head at the water tank and asked me about the positive ion generator replacing washing powder in our system. We talked about our grandchildren. The team came down off the roof and ate lunch. I was worried about our roof, which is aluminium laid over heritage timbers and very flimsy. It was moving up and down to an alarming degree.

"Did I tell you I play in a band?" asked Jimmy, watching my alarmed expression.

"Do you like it here?" I asked.

"Great island to live on and scones with jam you could die for," smiled Todd. By mid-afternoon they had finished and Cameron was asking for a dustpan and brush.

"Okay, five guys, two boats, two jobs, one with ten panels and the other with three, and a beautiful island. It's three o'clock in the after-

noon and we are producing 1.6 kilowatts from two houses and have saved 600 grams of carbon dioxide going into the air. Not bad for a day's work," he said.

"I did I tell you I played in a band, didn't I?" said Jimmy Shaw.

• If you want to get further details on the interactive grid system or the NASA paint, email Ann Howard on: <annhoward@useoz.com> or at <bigbix@ozemail.com.au>.

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Make your own free car fuel

James is a qualified diesel mechanic who has completed a book manuscript on how to modify any diesel car to run on vegetable oil. In this extract from his manuscript James gives us an overview and insight into the process, and a tantalising look at growing your own car fuel.

by James Peel

Bega, New South Wales.

I ONCE calculated that I worked 42 days a year just to pay my family's annual fuel bill. Now, about two hours per week collecting and filtering used cooking oil supplies my family with 99 per cent of our fuel. Vegetable oil is the most practical of some promising alternatives to petroleum fuels. It is renewable, biodegradable and comparatively easy to make. Growing oil crops would stimulate rural economies and create jobs.

Two separate methods

There are currently two separate types of vegie oil fuel; one you've probably heard about is BIODIESEL. There are books on the subject and there is also the Biodiesel Association of Australia, who offer lots of useful information. Secondly there is, DUEL FUEL CONVERSION or straight vegie oil conversion.

Biodiesel requires the purchase, handling and storage of chemicals and specialised processing equipment. You need to understand a fair amount of technical information and perform some potentially expensive trial and error experimentation. The major advantage of BIODIESEL is that it can be poured directly into any diesel fuel tank with no modifications, if processed correctly. (A tip on processing biodiesel: one of the main reasons for a processing failure is water contamination of the alcohol, oil or catalyst. Ethanol is very difficult to buy without excessive water contamination, and you must also be very careful of purity when purchasing methanol — ask for the specs.)

Vegie oil easiest

Having tried both methods I found the duel fuel (vegie oil) method easiest to deal with for numerous reasons. It's less costly in the long term, there are no chemicals, no complex processing, it's safer and faster (if making biodiesel, 200 litres of methanol is around \$250), and you

can still use biodiesel as well.

I have spent a good part of the last two years refining this method. I have the equipment and the skills to solve the many challenges in this project. Through this learning curve I have made notes and have now compiled it all into a book manuscript detailing the short road to this conversion, what is required to actually make it all work as reliably as possible, and to build the conversion as economically as possible. Some information I have previously encountered is sketchy in some areas so in this book I aim to be as thorough as possible and cover every step in practical detail.

The process

The process is quite simple: first you need to do the conversion, then collect some waste cooking oil, filter the oil, then drive your vehicle on free, environmentally-friendly fuel.

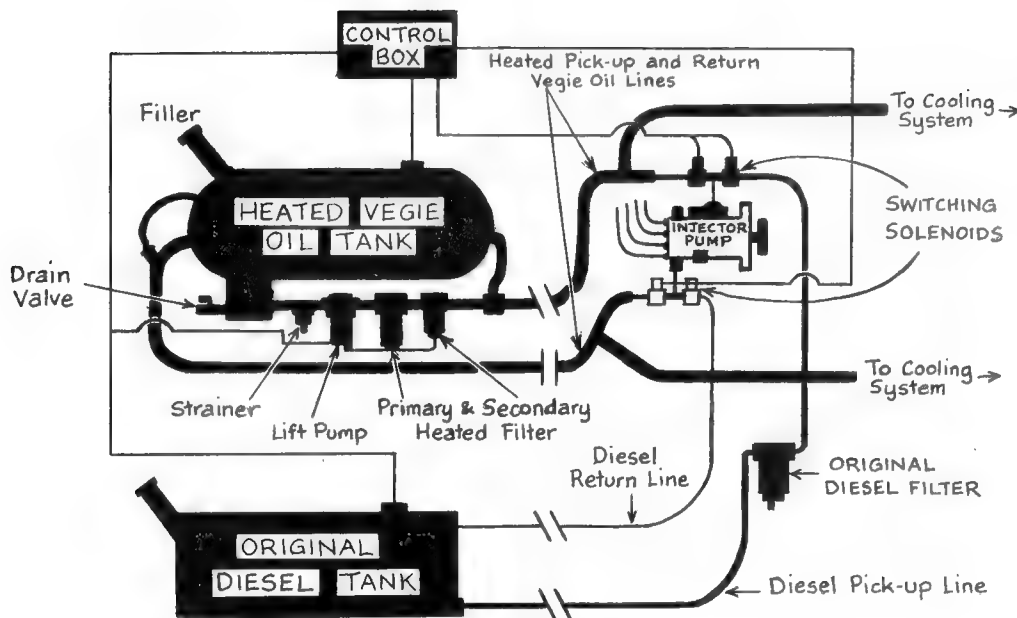


An entire fleet of buses in outer Melbourne now run on vegie oil.

Operation

Your vehicle needs to be started on diesel or biodiesel and warmed up to operating temperature by driving, and then it automatically switches to vegie oil — unless the override switch on the dash is set (by you) to diesel only. When you get to your destination turn the key off and the engine continues to run for a few minutes to flush the vegetable oil out of the fuel pump and injectors. Alternately you can switch the override switch back to diesel up to five minutes before you stop. If the system should fail, for example through a blown fuse, it is designed to be unlikely to affect the operation of the original fuel system.

The vegetable oil must be quite hot before it is pumped through the injectors and must never be allowed to cool down in the injector pump and injectors — this would cause rapid fouling of the injectors (a carbonised layer of poorly combusted vegetable oil which upsets or blocks the spray pattern of the injector). The injectors would then have to be removed and serviced, and it could also damage the injector pump internally.



James's system allows for an automatic switchover (or manual override) between petrodiesel and vegie oil.

The viscosity of the vegie oil is lowered substantially when it is heated. Heating also melts the waxes contained in the oil, and especially in used vegie oil, these waxes could have a serious effect on the filtering system. This is the reason for starting and stopping the engine on diesel. There is no evidence to suggest running vegie oil (properly) causes any serious engine damage.

Fuel source and filtering

In my book I explain what oils are easiest to use and suggestions on how to approach your local takeaway shops, how to filter your oil before fuelling your vehicle, how to build the filtering system, where to get the components, plus 'dos and don'ts'.

The conversion

The original diesel tank and fuel system are retained

and an extra fuel system is added — like a LPG conversion. There is an extra tank for the vegie oil which can be built from mostly recycled materials. The heating system uses both engine coolant and a simple electric filter heater. The fuel system uses heated pick up and return lines and an extra lift pump. There are two filters: a large primary and smaller secondary, and it is explained how to set them up and heat them. The control system has two options: an automatic shut down system or simpler, manual shutdown system.

A series of switching solenoids are set up to control the fuel selection. A fuel gauge can be added or the original gauge can be used, with the right arrangement, to show the level of the fuel tank

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James fills his diesel ute with used vegie oil to get ready for another eco-friendly car trip.

selected. The components selected are readily available and as cost effective as possible.

Long term — growing possibilities

It is possible that the demand for used cooking oil

could become high in the future. I have started researching growing my own fuel oil on my small property. There are so many options for crops and growing methods, it could be possible to organise a co-op of people in your area to pool resources to grow enough oil on one property, and share the work and processing equipment to supply all involved with all their fuel requirements. It may take time and money but stop and consider how much you spend on fuel per year.

Crops like atropa (a hardy, long living shrub) produce up to 1500 kg of oil per hectare, and the leaves could be sold overseas for around \$20/kg and the oil used for fuel. Olive oil is very good and a lot of people are now growing olive trees which will reduce the price of olive products and increase its viability as a fuel. This is especially so if you already have your own trees: the best produce could be sold for eating and the rest used for fuel. Other crops include sunflower, canola, mustard, and hemp seeds. The pulp from oil pressing can be sold as an

excellent stock feed (except for atropa which is toxic to livestock and also to snails and most other pests) and this could fund the crop production. I'm currently putting thought into cost effective, smallscale, tractor-powered, harvesting and oil extraction equipment.

So in theory we could be almost self-sufficient in our own fuel while at the same time improving our environment. I could go on, but that's enough to digest for now and I hope to find a publisher and have the book published in the next few months.

*At 14 James Peel built his first still to make ethanol, to run his motor bike, from leftover molasses on his grandfather's dairy farm. He completed an apprenticeship as a plant mechanic and later started his own business repairing and installing turbochargers and other machinery. James calculated that he worked 42 days a year just to pay his annual fuel bill. Now, about two hours per week collecting and filtering used cooking oil supplies his family with 99 per cent of their fuel.

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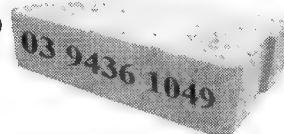
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Boonderoo Farm vegie oil

Organic farmer and WWOOF host, Thomas Moritz, explains how he came up with a simple system to run his vehicle on used vegie oil.

by Thomas Moritz

Upper Cheshunt, Victoria.

AFTER running our car on used vegie oil for about 24 months now, I think it's time to report on it. About three years ago I started thinking about converting to a diesel car so it could run on used vegie oil. This posed a few problems because, at that time, there was hardly any information around on the subject. Having grown up under dirty, greasy cars (my parents had a Volkswagen, Audi and Porsche dealership), I dug up some of my old brains and got stuck into it. One year of trial and error and I was there.

My system is quite different from anything else as it involved old, smelly fish and chips oil and not new biodiesel, which is quite different. In my system you need two tanks (one for the diesel, one for the oil) as we still need to start and stop the engine on diesel fuel: you cannot start on straight vegie oil because of the viscosity difference to the diesel fuel.

The most difficult part was to find a way to filter the old oil to my satisfaction so it won't clog up anything in the car.

Steps for running the car on oil:

1. Get oil.
2. Filter oil.
3. Pour into second tank.
4. Pump and preheat oil before injection pump.
5. Run car for about 15 km on normal diesel.
6. Automatic changeover to oil after it reaches about 60-70°C.
7. Run on vegie oil.
8. Switch back to diesel before turning engine off for any length of time.

We lose about five to ten per cent power but this is only



Thomas has now successfully run 4,000 litres of used vegie oil through his eco-friendly Toyota Troop Carrier.

noticeable when towing a trailer or going uphill. It certainly runs a lot cleaner and quieter. Emissions are cut down as following (compared to diesel fuel). There is a reduction of:

- net carbon dioxide emissions by 100 per cent;
- sulphur dioxide emissions by 100 per cent;
- soot emissions by 40-60 per cent;
- carbon monoxide emissions by 10-50 per cent;
- hydrocarbon emissions by 10-50 per cent;
- all polycyclic aromatic hydrocarbons (PAHs) and specifically the reduction of the following carcinogenic PAHs:
 - phenanthren by 97 per cent;
 - benzofloroanthen by 56 per cent;
 - benzapyren by 71 per cent;
 - aldehydes and aromatic compounds by 13 per cent.

This data is from Koerbitz, Werner, *The Technical, Energy and Environmental Properties of Biodiesel*, Koerbitz Consulting, Vienna, Austria.

We have run approximately 4,000 litres of vegie oil through so far. So if anybody has any supply of old vegie oil, please let us know! If people want to know more about it, just give us a ring on (03) 5729 8441.

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A STRAWBALE HOME FOR "CITY SLICKER SHEILAS"

Inge and her sister went bush and designed a strawbale home to function well for them and their elderly mother. Their building project became a successful workshop site, led by expert builders, Frank and Ingrid Thomas.

by Inge Huber

Border Ranges, New South Wales.

MY LOVE affair with strawbale building began when I first read an article in *Earth Garden* in the late 1980s. I then visited the Permaculture Institute in Tyalgum, northern New South Wales, where they had guest accommodation built with bales. The outside temperature was a steamy 36 degrees but upon entering the strawbale room I immediately felt a huge temperature change to a very comfortable level. I started to gather as much information as I could regarding this remarkable technology.

In 1999 I was fortunate enough to participate in a major strawbale project in Galston (New South Wales) and met Frank Thomas from 'Yesterday-Today-Tomorrow, Strawbale Construction'. I completed the three-day workshop and asked if I could stay on for as long as possible to be able to learn more. Frank was a marvellous teacher and an inspiration, with an incredible amount of strawbale knowledge. I decided there and then that I would have Frank run a workshop for me. During this time my sister Mari and I decided to join forces to buy acres and take our 86 years old mother with us, out of the city.

Both Mari and I are in our mid 50s and we had to be sure we could manage the arduous task of taking on the building of a home ourselves. Neither of us had ever had any major building experience but we had a lot of common sense and lots of hands on experience with renovations and repairs over the years. We drew up plans for a house that would suit our lifestyle. Planning for our future needs took precedence over everything else. We had three major requirements: it had to be totally wheelchair accessible; the floor plan had to flow to accommodate this and meet our individual needs and lifestyle now and in the future; and it had to be as maintenance free as possible and the materials had to be as environmentally friendly as possible.

Steel shed frame

After much research we decided on a steel shed frame designed to our specifications. Armed with this data I set off to find our acres. We had decided it would be in northern New South Wales and that is where we found six beautiful acres surrounded by the Border Ranges National Park. The soil had a very strong clay content so we would be able to use it for our renders. Due to the instability of the ground we opted for a concrete slab as a foundation.

Our living area measures 21.6 X 12 metres (260 square metres or 28 squares) with full length verandahs on the north and south sides, each four metres wide. We chose a Colourbond roof instead of more traditional materials and this was installed before the bales went up. The Colourbond sheets came in 12 metre lengths, were easy to install, look magnificent and are virtually maintenance free. During this period we received a very comprehensive report from Frank and Ingrid, listing all the materials and preparations needed to ensure a well-organised and successful workshop.

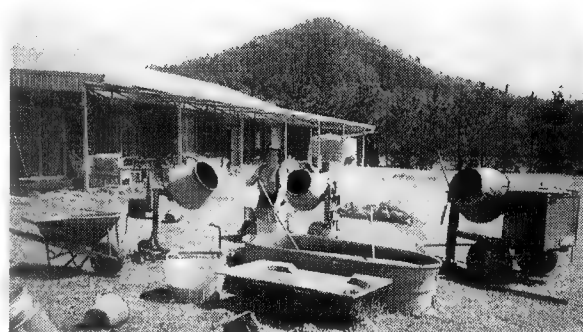
Preparing for baling workshop

The frame's steel posts had to be covered with Hessian to prevent condensation leaking into the bales. Frank had included his design for the bottom plate so we proceeded to get this ready. A local excavator had dug up our clay and the sand had arrived. We had placed ads in several magazines to find participants. Two hire toilets and a large tent to accommodate everyone duly arrived. We wanted to be as prepared as possible so a lot of planning went in beforehand. We were now ready for the workshop.

It was to be a six and a half-day workshop and Frank and Ingrid had prepared all the schedules. The first two hours were theory with videos, slides and literature. The rest of the days were spent bale raising and erecting door and window frames out of hardwood. At the end of the third day all the bales were in place as were the door and window frames. Tying down with wire and sewing the bales was going at a good trot and by this time we had discovered what an exceptional team we had. Everyone was totally enthusiastic and motivated and we soon discovered what a multitude of skills everyone possessed. There was a lot of hilarity and jokes and lots of new friendships in the making.

Mari and I wanted everyone to be as comfortable as possible so we did all the catering ourselves. Our motto was: "Feed them well and keep them happy!" All building work is hard and dirty — ours was no exception.

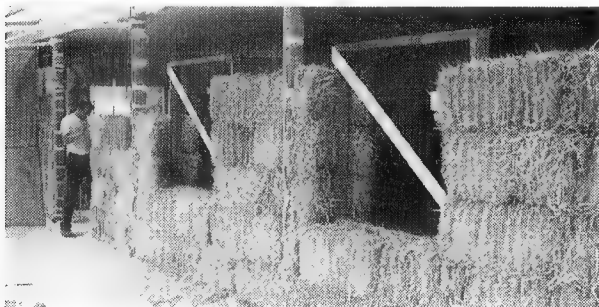
By the sixth day the scratch coat of mud was on most of the walls inside and out and the whole place looked like a great big chocolate mud cake. Frank did a demonstration wall with the second coat of mud render so that everyone could see what was involved. He demonstrated his skills with the hawk and trowel and it looked just perfect. We all then had a go and tried to get more mud on the wall than on the floor. We took turns slapping and throwing and trying to get used to the hawk and trowel technique. After a number of concerted attempts by all, a remarkably good-looking wall emerged.



Above: making chocolate mousse (render!) in the bathtub. Left: Mari and Inge wanted big fat curves around all the door and window openings.



Above: three city slickers: Mari, Inge and their 86 year old mother, Elsa. It was vital that their home be completely wheelchair-friendly. Left: master strawbale builder, Frank Thomas, checks some bales during the wall raising.



And on the seventh day . . .

So much achievement in such a short period of time by ten dedicated, fun loving and enthusiastic people was a marvel to behold. By the end of the sixth day everyone was exhausted, and we spent the last half-day cleaning up the place. We really appreciated this clean up session because the tidy building site made it so much easier and pleasant to face work on our own.

After everyone had gone Mari and I continued with the next phase. Our first priority was filling in gaps and depressions with straw and mud biscuits. We also wanted big fat curves around all the door and window openings so we set out on this job. This was very time consuming and labour intensive and now we only had our two pairs of hands. The effort was well worth it once we saw the results. We used Hessian and chicken wire and pegged these in with bent wire and packed all the cavities with straw.

Second mud render

We were ready now to apply the second mud render. We borrowed three concrete mixers and three baths in which to mix mud and water. We very quickly realised why the second and third mud renders were too difficult to incorporate in a seven-day workshop: For the render to be perfect it needs to absorb water easily and mix well. Ours proved to be a bitch!

Due to our high clay content (approximately 30 per cent) it proved to be quite difficult for the clay particles to become absorbed with water. We stoked it, we poked it and finally threw it all into the concrete mixers until we had the most beautiful mixture, like a creamy chocolate mousse. Once we had the formula part it all went like clockwork, though extremely labour intensive.

By this stage we realised we needed more help and therefore hired a few locals with trowelling experience. From then on things moved quickly and we once again had a team of enthusiastic 'handymen'. Needless to say that they had never worked with a mud medium before but, apart from the initial scepticism and total disbelief of anything like this actually working, they were soon converted.

With the hot and dry weather the second coat dried very quickly and lots of hairline cracks appeared. Shock, horror and the thought that our walls would be terrible — but a quick

SOS call to Frank alleviated our concerns. A workover with a wet sponge erased the cracks immediately and they never appeared again. We soon had the third and last mud render on and we began to see how incredibly beautiful it looked and felt. The locals periodically trotted over to watch the progress and it was gratifying to see their looks of amazement and admiration at the end result. A few more converts!

Pulled it off!

By now we had all the windows and doors installed, covered up and taped. It had taken us six months to reach this stage. Then the interior stud walls were erected and the whole place looked almost like a house. We are now close to completion and it looks as though it will have taken us 14 months.

We consider it a major miracle that two middle aged city slicker sheilas pulled it off! It has been the biggest physical challenge we have ever tackled and the feeling of accomplishment is enormous. As far as we know, ours is the only completely wheelchair-access house built with strawbales. I hope our successful building project may encourage many readers to consider strawbales as a healthy, sustainable and beautiful material to build your dream home.

• **Frank and Ingrid Thomas can be contacted at <strawbales@bigpond.com> or by phoning (02) 4869 3302 or 0408 415806.**

Solar Central Heating

Off The Shelf

In the past people have experimented with solar central heating — sometimes with up to eight collectors crammed onto their roof. Now companies are offering an ‘off-the-shelf’ solar central heating system that’s gas-boosted and unobtrusive. One Melbourne couple has immediately taken to their system like ducks to water.

by Alan T Gray
Trentham, Victoria.

PEGGY and Wallace Holcombe are an impressive couple. Peggy says that her mother was an environmentalist who taught her well. This is partly why the Holcombes have embraced solar power in a way that few young couples have considered, let alone older folk who may find it harder to plunge into the unknown.

Peggy and Wallace have retrofitted their three bedroom weatherboard home in the Melbourne suburb of Blackburn, to run a central heating system on solar hot water. The system has been running for over a year and they are delighted with the cosy results. Although they haven’t yet measured the costs savings they are certain that

even with gas boosting for their solar central heating system, they are well ahead on the old days when they had only stuffy gas space heaters to warm their home.

The Holcombes have sleek, slim, hot water radiators in every room — each with its own valve to turn off any time. They even have radiators with horizontal bars that go up the bathroom wall. Guess why? That’s right: the Holcombes love having warm, dry towels when they step out of the shower on a Melbourne winter morning!

The whole system of radiators is connected to a ‘ring main’ under the house. This ring main is in turn connected to the Edwards solar hot water unit, close coupled on the roof and with three, rather than the normal one or two, hot water collectors.

The system is run by a small pump behind the house, mounted below a small instantaneous gas booster. The



Peggy and Wallace have a large radiator in their living room, but its sleek design makes it unobtrusive.

whole system is a luxurious and eco-friendly way to maximise the value of the sun's power. The installers, Earth Two Solar Pty Ltd, who claim to be "easily Victoria's largest installers of solar hot water systems", can use the Edwards units or the latest Beasley ground-mounted model. David Lawther from Earth Two Solar says that such a system can save "80 to 90 per cent of your running costs, and will reduce your Greenhouse gas emissions by five to six tonnes per year".

The fancy radiator panels which come with this system are all copper, which means drinking water can be circulated through the whole system: you don't need one water circuit for heating and another for drinking and showering. Another claimed advantage is that the ring main provides instant hot water at any point in the house: no more running cold water down the drain as you wait for a hot shower. (Not that any of us do that of course: we all have huge buckets in the shower ready to pull out to water



The Edwards solar hot water unit has only three collectors to provide all the Holcombe's hot water and most of their central heating needs.

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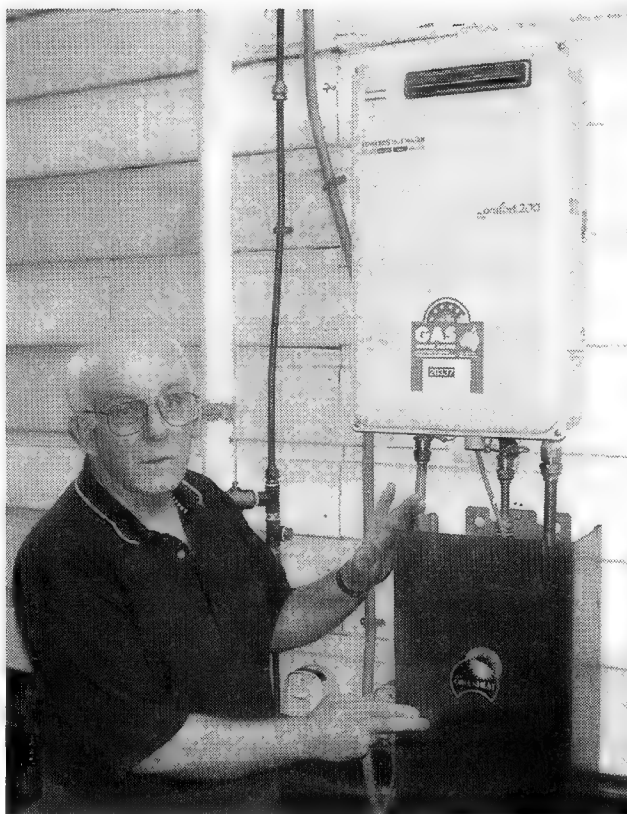
plants as the water gets hot, don't we? Yes. Of course.)

So why stop at hot water and electricity, if you can heat your home with solar power too? The answer to that question for many people may be the cost. Wallace doubts that there was much change from \$10,000 for their 'fiddly' retrofit. Such a system for a new home would cost much less, and if added to building costs or (worst luck) a house mortgage, would eventually pay for itself in reduced heating bills.

Peggy and Wallace don't regard themselves as eco-pioneers: Wallace scoffed at the idea when I asked if he was a greenie. But this is one smart couple. In their retirement they wanted a heating system with no moving parts, no naked flames, and the smallest impact on the environment.

• For more details about installing a 'Greenheat' solar central heating system, contact Earth Two Solar Pty Ltd, 12B Macro Court, Rowville, Vic, 3178, phone (03) 9763 6311, fax (03) 9763 6511, or email: <solar@earthtwosolar.com.au>.

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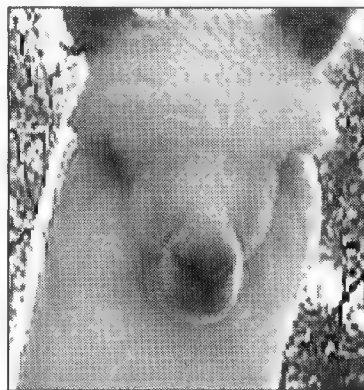


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Modern 'Hay Box' Cooker

Perfect For EG Lifestyles

The Dreampot is an ultra-efficient version of the old Depression-era 'hay box' cooker.

by Alan T Gray
Trentham, Victoria.

THIS clever commercial unit uses the same principle as the old hay box cookers: a small amount of initial cooking (five to ten minutes on your stove, or gas cooker if camping) is all it takes to cook dishes that would normally take an hour or three. How? By using the retained heat, and super-insulating this heat, and using it to slowly cook the whole dish.

Sound too good to be true? We thought so too so out came the rather rare *Earth Garden* road test on a recent holiday at an old rented holiday house on the Great Ocean Road. We spent days cooking up fabulous winter stews, lentil soups, and Indian dishes, all using the recipes which are supplied with the Dreampot.

Although we were sceptical that ten minutes of initial cooking could produce a winter stew or soup — still piping hot ten hours after it went into the Dreampot — we have now seen these amazing results with our own eyes and feasted on the result.

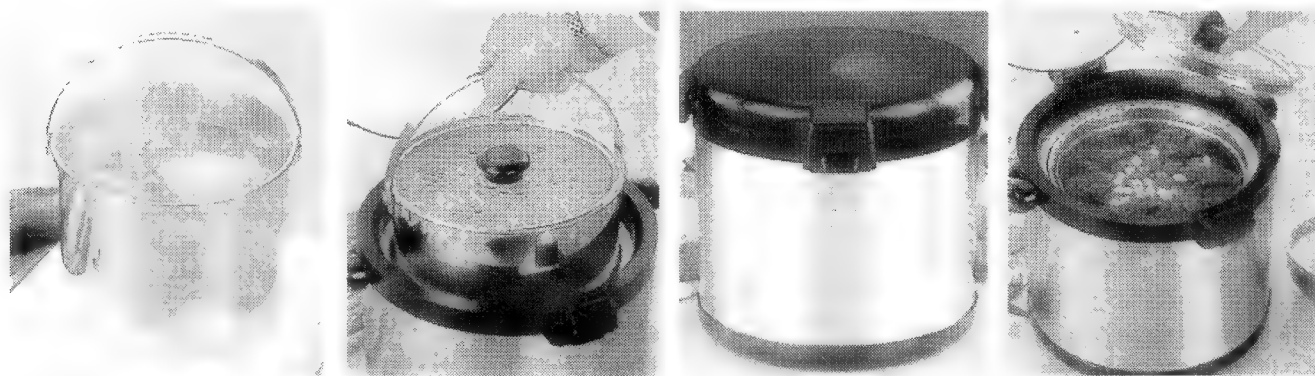
The Dreampot is not cheap but we think it's worth every cent — and not just because you can save 80 per cent on your cooking bills by using one. We tried out the five litre version (\$225) which not only has a huge stainless steel bottom pot, but also a clever little 2.3 litre pot which fits inside the large one. So if you want to make an eggplant curry, you can cook rice in the top pot at the same time.

Now I can hear readers' brains clunking as you start to imagine all the uses. You're on the building site all day and at the end of a long day of toting strawbales, mudbricks, or recycled bridge timbers, the last thing you fancy is slaving over a hot stove — especially if it's the middle of the good building season (ie hot summer!).

So with a Dreampot you can do a little preparation in the morning after breakfast, whack your ingredients in the pot, do the initial five to ten minutes cooking, and at sunset your dinner is ready and waiting and as hot as Hades. Or what about if you're travelling in the Outback and when you set up camp you have a bunch of hungry kids wanting some dinner just as you're struggling with the tent poles? Out comes the Dreampot feast which has been quietly cooking throughout the day as you potter through the countryside.

Or what about a day in the garden or out on the farm to make the most of good weather? The last thing you want to do is lose valuable daylight because you have to go home and start cooking. You could also take a nice hot lunch off to that distant paddock in winter.

The Dreampot seems to be perfect for *Earth Garden* lifestyles — whether you're in the city or the bush. Young mothers (it's usually mothers) know how stressful the 'witching hour' can be. It's six o'clock, the kids are tired and hungry, you've got 25 jobs to do in the next hour, the phone is ringing and what the hell are you going to cook for dinner? (Judith calls it the witching hour cos that's what she reckons she becomes if she's not careful!). A little



The Dreampot is a non-electric appliance that uses the retained heat, from a small amount of initial 'stove' cooking, to produce huge dishes.

morning preparation means you can pull out a hot meal for the little ones without the rush. And busy households where both partners work could benefit from using a Dreampot before they take off for work.

Recipes

So what do you do after three nights of soup? You can't eat lentil soup for the rest of your life. Luckily, the lovely people who sell the Dreampot are the sorts of people who are really enthusiastic about their small business. They include a recipe book with every Dreampot and also produce regular updates.

The range of recipes is quite diverse, and once you get your head around the concept of cooking in retained heat, you can adapt any of the recipes to suit your own tastes. The recipes range from cakes, scones, soups, stews, and curries, to steamed fish, pastas, desserts, and many meat-based meals. I nearly forgot: the Dreampot also 'doubles' as a yoghurt maker, warming oven, cooler and ice bucket, though not all at the same time.

There's even a recipe in the book from Dean Moignard, half of the hard-working team (Leanne Grylls is the prettier, and less hairy half) that used to run the *Earth Garden* stalls at various festivals around Australia, come rain, hail, shine or even snow (yes, they nearly got buried

on their way back from Candelo one year).

Dean's Vegetable Supreme

Boiling time on stove: ten minutes

Cooking time in the Dreampot: one hour

Number of serves: four to six

Ingredients

- 2 tblsp olive oil
- 1 small zucchini
- 1 medium onion
- 1 medium carrot cut into thin rings
- 1 small eggplant
- 1 X 810g can crushed tomatoes
- 1 small green capsicum
- 1 tsp ground cumin
- 1 small red capsicum
- 1 tsp coriander
- 1 cup cauliflower
- 1 sachet oregano & basil tomato paste
- 1 cup Brussels sprouts
- 1 tblsp tamari (soy sauce).

Method

1. Using the small inner pot, heat the oil and sauté the

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sliced onion and eggplant until soft.

2. Add the remaining vegetables and stir. Add the tin of tomatoes, cumin, coriander, tomato paste and tamari and stir.

3. Bring to the boil, covered. Adjust heat and gently boil for ten minutes, stirring intermittently.

Remember to have boiling water or another meal cooking in the large inner pot before placing the Vegetable Supreme on top. Serving suggestion: a lovely accompaniment to steamed rice or pasta.

Bread and butter pudding

Boiling time on stove: ten minutes

Cooking time in Dreampot: 1.5 hours minimum

Ingredients

- 1 cup milk
- 1 egg
- 1 tblsp sugar
- 2 slices bread buttered and spread with jam (cut into fingers)
- coconut
- nutmeg
- vanilla
- 2 tblsp sultanas.

Method

1. Warm the milk with the sugar in the small 2.3 litre inner pot.
2. Beat the egg and add to warm milk with vanilla. Stir in sultanas.
3. Place bread on top of milk mixture. Sprinkle with nutmeg and coconut.
4. Almost half fill large inner pot with hot water and bring to the boil.
5. Place small inner pot into the large inner pot. Put on lid.
6. Slow boil for ten minutes on the stove (as a double saucepan).
7. Place complete two inner pots into the Dreampot.
8. Let stand for minimum time of 1.5 hours.

Serve with ice cream and stewed fruit.

• More details about the Dreampot are on the web at <www.dreampot.com.au>, or you can contact Green Brothers Wholesale Pty Ltd for more information and prices. Phone freecall 1800 636 073, or write to 259 Denison St, Rockhampton, Queensland, 4700, or email: <gbw@dreampot.com.au>.

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Still Going Solar After 25 Years

The pioneering renewable energy and sustainable living shop, Going Solar, has recently moved to one of the world's most eco-friendly office buildings as it celebrates 25 years of trading in June this year.

by Alan T Gray
Trentham, Victoria.

GOING Solar has been a beacon and a bit of a lifeline for many Victorians who have sometimes felt as if they're alone in wanting solar power, energy efficient appliances, books, magazines and other such supplies. While it's still fashionable in some quarters to laugh at people who recycle their waste products and greywater, increasingly such practices are being adopted by mainstream society, and even policy makers.

Throughout this social change in Australian society over the past quarter century, Going Solar has been a constant, a source of ideas, products and inspiration for people who want to tread more lightly on the Earth and use her resources more wisely. Without Going Solar many Victorians would feel a lot more isolated from the *Earth Garden* community of like-minded folk.

Stephen Ingrouille, the founder and owner, has done something unusual with Going Solar: he hasn't palmed it off onto someone else! Stephen has a remarkable history of coming up with brilliant ideas, starting events, and then walking on to the next project. He started the Alternative Technology Association, which is now a flourishing community movement dedicated to moving Australian society onto a more sustainable footing. He also started the Sustainable Living Foundation, after Going Solar pulled off two hugely successful sustainable living fairs, firstly at Musk near Daylesford in central Victoria, and the follow-

ing year at Hanging Rock. Stephen then did his usual job of 'palming off' the whole project by helping to establish the SLF which has now run two more such fairs.

The move to 60L

Stephen has maintained a vision and a firm view of how to run his business. At the same time he always listens to enthusiastic staff members who have ideas and plans for keeping Going Solar at the forefront of its field. For example, Going Solar is now settling in to its new home on the ground floor of the innovative 60L building at 60 Leicester Street, Carlton. 'The Green Building' is on the edge of the Melbourne CBD and houses the Australian Conservation Foundation and a range of other environment-minded businesses and community groups. The building is a model for Green office buildings because it has been built Green from the ground up.

The concrete is 60 per cent recycled. It uses two-thirds less energy than a similar standard commercial building; it uses a PV solar system, and all electricity comes from renewable sources. The building optimises natural ventilation and natural lighting, and has high efficiency artificial lighting and light fittings. Solar shading and the use of low-emissivity double glazing is standard, and it uses 90 per cent less water than a similar standard commercial building. Rainwater is collected and used, there are waterless urinals, and on-site treatment of wastewater and sewage, with the treated wastewater used for toilet flushing and irrigation of landscape features.

Shop Manager, Amadis Lachetta, said that Going Solar decided to move from its old North Melbourne address, diagonally opposite the Vic Market, to the 60L building "to be part of the synergy. The building is part of the hub whereby people come into the city to be part of sustainable solutions."

"The shop and office are now a lot more approachable for a wider range of people," said Business Manager, Greg Longman.

The 60L building is a living example of all the things Going Solar stands for: it's painted partly with Bio Paints, there are BP photovoltaic panels contributing to the building's power supply, and all the materials in the shop fit-out were either recycled, plantation, or from sustainable sources.

So how does Stephen maintain his vision and commitment after 25 years? He groans when I ask him this and tries to tell me that "catnaps" are his secret. Yeah, right.

"It must be some internal drive. I see the need for this work and I know it's right. And we're vindicated by the fact that other people are doing really good work and that inspires me to keep going. For us the environment is very pleasant to work in, from the non toxic paint to the building's atmosphere. Also, we've brought all our staff, retail and wholesale, together. And now we have these other people like Environment Victoria and all the rest, all working together — we're not in isolation any more. The



Going Solar's new home, the 60L building.

the social side is great too: Friday night drinks with everyone in the building — life's not just about working all the time, enjoying yourself is important too."

Amadis says that Going Solar's commitment to providing sustainable solutions is why it's a great place for staff to work. On 20 June Going Solar celebrates its 25th birthday, and we all hope they'll be around in another 25 years, bigger and better than ever.

• You can visit Going Solar's new shop at 60 Leicester Street, Carlton Vic, 3053, (Melway 2B C11), phone (03) 9348 1000, or email: <retail@goingsolar.com.au>.

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EARTH GARDEN REVIEWS

BOOKS AND MUSIC

Edited by Judith Gray



The Hand-Sculpted House

**A Practical and Philosophical
Guide to Building a Cob
Cottage**

**by Ianto Evans, Michael
G. Smith and Linda
Smiley**

**Published by
Chelsea Green**

**Paper back, A4, black
and white, 8 pages full
colour**

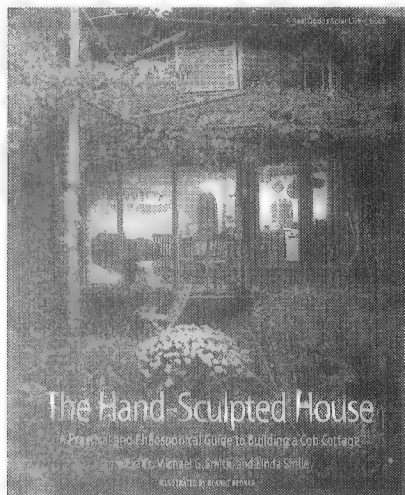
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This is truly an inspirational book, loaded with beautiful ideas and packed with practical knowledge and skill. This is the perfect balance between the art and the craft of earth building. The book begins with learning from nature. It looks at topics such as other cultures, simple materials, psychological well being, financial empowerment and environmental impact. A brief history of

cob will help you understand why it is such a special building material. Other chapters include a comprehensive look at passive solar design, sharing your home with nature, and keeping it small. Once you are sure you want to do it and what shape your cottage will be, the materials and tools chapter will be your guide.

Throughout this book, drainage (moisture) is constantly referred to. Diagrams and photographs give great detail to the potential builder on how to build out moisture. Without proper attention to foundations all your work could be in vain. Careful attention is paid to the recipe for your cob. Learn how to mix your cob by yourself using a tarp and a slope or perhaps you'll prefer to take a partner and ballroom dance your cob together. Building arches and frameless windows provide a fantastic opportunity for the sculptor to flourish.

Learn how to organise a team of cobbers or even run a cobbing workshop. When offering workshops, it is important to recognise you are teaching more than how to build. Author Ianto points out that attendees at a cob workshop come because they don't like some aspect of their current life. They are ready to learn and change on many levels. Honour this and make the experience as rich as you can. You will need to be patient, tolerant, generous and even appear relaxed when you are not! A cob house is not only compatible with its surroundings, it is the surrounding literally rising up from the earth, made from the earth. This book is a fabulous exploration of ecological design and building.



The New Complete Book of Self-Sufficiency

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Realists and Dreamers)**

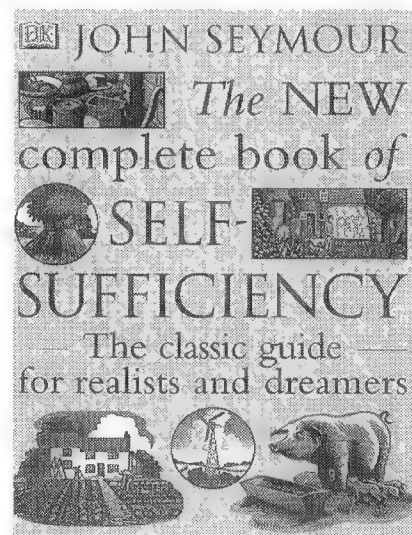
by John Seymour

**Published by Dorling
Kindersley Ltd**

**Large format, full col-
our, 312 pages**

\$59.95 inc GST*

This is a fully revised, updated and expanded edition of the classic *The Complete Book of Self-Sufficiency* originally published in 1976. It would have to be considered a bible for any dedicated Earth Gardener. John Seymour is known as the 'English father of self-sufficiency'. He was born in England in 1914 and after studying at an agricultural college, he spent ten years in Africa fulfilling his "cowboy dream". John found himself managing



a sheep and cattle farm and acted as a livestock officer. When World War Two broke out he joined the King's African Rifles and fought in the Burma Campaign, arriving back in England penniless. After such adventures it is not surprising that John's desires led him to a life of self-sufficiency in remote rural England.

It is true to say that this book is very much written for the Northern Hemisphere and for that matter an English audience. For example there aren't too many places in Australia where livestock have to be slaughtered due to winter's harshness. (If anything it's the summer that poses this threat). All this said there is no doubt that the gardening knowledge, essential planning methods and recipes are timeless and cross cultural. Quite simply, yes, this book is suitable for Australian readers, both urban and rural.

The content is quite incredible, from 'The Meaning of Self-Sufficiency', 'Food from the Garden', 'Food from Animals', 'Food from the Fields' and 'Food from the Wild'. To follow on, John looks at the dairy, the kitchen, brewing and winemaking, not to mention energy, waste and exquisite cottage crafts.

Learn how to make the essentials for life, from the kitchen to owner building. Thatching, working wood, spinning, flax and stone work are just a few of the life skills John has developed and is so willing to teach to others. This book is crammed with the most beautiful and detailed illustrations and diagrams. For example the fencing diagrams have wonderful detail and make you want to go out and build a traditional bush pole gate. At a glance it is easy to see how to embark upon a project.

Throughout these pages John Seymour's philosophy of making your own choices and learning as you go flows through. An organic way of life is a slow and steady learning process. So don't try to do everything at once. John says, "I am only one. I can only do what one can do. But what one can do, I will do".

Greeniology How To Live Well, Be Green And Make A Difference

by Tanya Ha
Published by
Allen & Unwin
Large format, paperback
\$29.95 inc GST*

The basis of this book is to teach the average city-dwelling punter how to live a less consumerist lifestyle without losing the quality or 'standard' of living we have all become accustomed to. Reduce your consumption, recycle and enjoy. The book is an excellent collection of tips gathered together under their relevant chapter headings. Chapter one's 'The Greener House' includes the kitchen, living room, bathroom, laundry, and bedroom. Then in chapter two, 'Beyond The House', Tanya looks at Greening the office, how to shop, groom, and even have a Green baby. Finally, chapter three looks at issues facing the world.

Some of the little tips in this book are great. Did you know that there are two types of sunblock cream? Organic and inorganic. If you think the organic one is better for you and the planet, you're wrong. Tanya explains that when 'Green shopping' we should look for sunscreens which have inorganic active ingredients (usually zinc oxide or titanium dioxide) in a plant-based medium, rather than a petroleum-based cream or mineral oil. Inorganic screening agents (sometimes called non-chemical sunscreens) are less likely to irritate sensitive skin. So there.

For many Earth Gardeners this book contains all the stuff you know, but it's all gathered together with lots of sources, references, and suppliers. It's perfect for any beginner Earth Gardener, or a school library. Just be careful you don't use this book to become one of the 'Green police' — they're everywhere!

***These books are available from The Good Life Book Club by phoning (03) 5424 1814, or writing to 17 Falls Rd, Trentham, Vic, 3458 for ordering details or a free catalogue.**

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Earth People Write continued from page 6

A Tassie welcome awaits you

Hello Earth Gardeners,

Would you like to visit and camp amidst Tasmania's wild mountains, surrounded by wilderness, creeks you can drink from, rainforest and utter peace? Well, you are welcome to visit my property. I don't want money or work-in-kind. I just enjoy meeting people and sharing ideas on everything from gardening to building, electrics to philosophy, spirituality to plumbing, laughter to tears, love to joy. I am also a musician. I play classical piano and pipe organ and I have a piano and old harmonium here. I am also heavily into dance music from house to funk, ska to disco, jazz to world music (I used to be a DJ), so the odd rave in the bush is certainly not out of the question (but please, no drugs!). I have an arboretum of currants, and bramble berries. I also grow organic vegies and fruit trees.

If you prefer a tin roof to camping, there is an almost self-contained octagon here too, about 1 km from my house. I'm also hoping to drive my little 1 litre Tonka truck up to Cairns this winter, so if anyone would like a visit, I'd be delighted. I can dig, am good at electrics, plumbing, building and so on.

I am full of laughter, a bent sense of humour and if there are any old pipe organs languishing under dust at your local churches, I'd be happy to fill them with some Bach, Buxtehude or Pachelbel for whoever wants to listen to my endless mistakes! So, if you are interested in visiting or being visited, please drop me a line. Cheerio,

John Robin, c/- PO Meander, Tasmania, 7304.

30th anniversary?

Dear Alan,

I've just been reading some early copies of *Earth Garden* and discovered the Special 20th Year Anniversary edition 1992. Did you have another for 2002?

Vic Calthorpe, Mt. Glorious, Qld.

Dear Vic,

Because you've been a highly-valued contributor to 'Earth Garden' over the years (and appeared with your beautiful young daughters on the cover of EG 59) of course we'll be delighted to post you a copy of EG 120, which featured our 30th anniversary tree planting and time capsule ceremony with the founders of EG, Keith and Irene Smith!

— Alan.

Fabienne's brilliant Xmas thinking

Dear Earth Gardeners,

Christmas has come and gone once more but I just want to say how inspiring I found Fabienne's article on 'Counteracting Consumer Christmas crud' (thank you to her from another ex-Mawsonite). I took great delight in going to the local native plant nursery and purchasing a flourishing *Callitris* pine that happened to be endemic to our area for the same price a cut off tree would have cost. The bonus is it is still growing well (minus the Xmas decorations) today.

It was wonderfully empowering to be able to mentally move away from the whole commercialisation of Xmas and consumer pressure and actually give gifts that had real meaning: to myself, the receiver and importantly gave back to the source.

I did not have the time however to make Xmas gifts of any sort with two small children and a business to run but was enthused to think hard to find alternative presents. My 'criteria' were gifts that either supported a cause such as The Wilderness Society, Community Aid Abroad (CAA) and Amnesty International; or were of a practical or spiritual basis that would aid someone in moving closer to their own connections to nature and/or becoming an Earth Gardener!

Gifts included plants from the local nursery, a candle lantern for night-time strolls in the garden and bush, some Jackie French books from pest control to *Diary of a Wombat* for a three year old (Jackie — you will be pleased to know your books were given and received in all directions in our family this past Xmas!); hiking equipment and some chimes from CAA.

I normally despise Xmas shopping and was determined to buy nothing rather than feel rushed into some throwaway item. As it was no one missed out and I felt quietly self empowered by keeping, in the main, out of the mad Xmas shopping frenzy and coming home with great gifts and still money to spare. Most were not expensive and I had not over shopped or overspent through being drawn into the mayhem. I must add that although this was my ideal I did have to venture into a toy shop or two to keep all our little 'consumers' happy; but this became a well thought out mission without overbuying.

I hope that next year or at any present buying time you can be inspired to avoid the shopping complexes and go where your heart and *Earth Garden* passion take you.
Rachel, Blackwood, South Australia.

Noni tube stock available

Hello lovely Earth Gardeners,

Beware Val Smitheren (EG 122 'breadfruit query'), your prized noni is probably not a breadfruit or a cherimoya, but indeed a *Morinda citrifolia* otherwise known as 'noni' throughout Polynesia and Hawaii, or more colloquially in northern Australia as 'rotten cheese fruit'. This eight metre, small tree is also known as Indian mulberry and bears fist-sized fruit that resemble breadfruit. But these really pong and this plant is in the *Rubiaceae* family, so you will be disappointed if you are expecting a sweet custard apple. Perhaps don't plant it by the back door!

Noni fruit does have remarkable medicinal properties however, and is reported to be of benefit for stress, auto immune-conditions, cardiovascular diseases, diabetes, cancer pain, and depression. Noni has long been used by Aboriginal people, the Polynesians, in India and China, and throughout the tropics where it grows best. 95 per cent of the world's noni juice is produced by one Polynesian company and it is not cheap. For more information and bulk tube stock enquiries email us. Go Earth Gardeners.

Ravi & Carrie, Broken Head, NSW, email: <spiralgardens@planet-save.com>.

Cruelty to cats unfunny

Dear 'Earth Garden',

I thought that the publication of the letter, 'Cats and coconuts', in your 'Ask the Wildlife Doctor' column of EG 123 to be in completely bad taste. When did the mistreatment and cruelty to animals, suddenly become a humorous subject? Cats may not be the most environmentally friendly pet a person can have, but they are lovely companions and their environmental impact can be almost non-existent if they are properly cared for and controlled. If you want to start nitpicking, dogs can be just as bad. If not properly cared for they roam, they use other people's yards as toilets, bark at all hours of the night and day, they can be vicious, and can destroy soil structure by their constant digging (usually in someone else's garden!).

I thought that the author of the above mentioned letter was particularly cruel to

kill not only feral cats, but domestic ones as well. A simple cat cage will catch the offending cat, which then can be given back to the owner of the said cat, with a warning of what might happen if the cat strays again. In the Queensland towns of Gladstone and Toowoomba there are cat registration laws that make it a crime to let your cat stray. All cats have to be registered, with rebates for those cats which have been spayed. The answer to problem cats, is simply responsible ownership, not cruelty.

Jo Jackson, Atherton Tablelands, north Queensland.

Dear Jo,

Neither Dr Barry Traill nor myself would ever condone cruelty to animals. This however, does not mean that we felt the letter unworthy of publication simply because we may not agree with all views it contained. For instance, I have very strong personal views about the need for stricter gun laws and have risked imprisonment for expressing these views. However, I still published 'Cats and coconuts' despite its pro-gun comments. Sometimes we publish material in EG even if it doesn't always accord 100 per cent with our own views.

— Alan.

Paper log making?

Dear 'Earth Garden',

Thank you for your wonderful magazine. I've been reading EG for the past two years and it has been a great inspiration in my own exploration of sustainable living. I recently bought an old miner's cottage on an acre of land that is in great need of a lot of TLC on the Yorke Peninsula in SA. I'm looking forward to the challenge of renovating and growing my own organic edible garden of Eden with local earth friendly resources.

I'm looking for a recipe to make paper logs that can be used in both combustion and open fires. I have been exploring options with a local supported employment service that shreds paper for local businesses. Unfortunately they can no longer recycle the shredded paper (there is only so much shredded paper you can have on your garden with out suffocating the plants of nutrition) and it will need to be taken to the local tip. Our first attempts, using washing sodas, have been unsuccessful, as this created a lot of smoke.

We have a recipe that requires boiling in a copper that would create some occupational health and safety issues with the employees. If anyone has any useful tips or creative ideas to recycle the shredded paper

it will be greatly appreciated. The Supported Employment Service generally generates four to six bales per week. Thank you and keep up the great work. I can be contacted via email.

Andrea Chilton, 15 Taylor Street, Kadina, SA, 5554, phone (08) 8821 2511, fax: (08) 8821 2127, email: <andrea.chilton@dhs.sa.gov.au>.

Dear Andrea,

The 'Hard Times' issue, EG 34 (page 21) has the details on how to make 'newspaper logs' by wrapping them (wet) around a broom handle till 50 mm thick. In 1983 Kambrook sold a 'Combusta Brik maker', and cinva or Dalrac mudbrick presses can be used for making paper bricks (although Karen says it's hard work!). A reader may sell you one of these items.

— Alan.

Moveable pig pen plans

Dear everybody,

I need to make a guinea pig cage for my children's pets. We began with five last September and now have 14, plus another three to four litters on the way. Would a reader have plans for one? I'm needing something like the A-frame chook pen because the yard occasionally floods (though not lately). It also needs to be (a) cheap — I'm a single mum and my son is disabled, so a lot of cash goes on keeping him alive, and (b) easy to build — think Homer Simpson with a hammer. The A-frame chook pen would be better if it was on wheels. Maybe some clever reader could figure it out. As it is, to move it requires two people: something very lacking in this household, as in a lot of households, I'm sure. Hoping someone can help me out. Thanks.

K Shepherd, 13 Curacoa St, Coffs Harbour, NSW, 2450.

Dear K,

Unless a reader has a better idea, check out the A-frame made from scrap aluminium flywire doors on page 18 of EG 123. Adrian and Marilyn's design is light and clever.

— Alan.

Caustic-free soap

Dear EG,

My little boy has quite sensitive skin and is prone to rashes. I would like to make soap but most of the recipes contain caustic soda. Do any readers have recipes for 'non caustic soda' soap? Have just subscribed to your magazine — I love it!

Michaela Press, PO Box 3075, Port Augusta, SA, 5700.

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Journal of Permaculture Design Institute

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Bookings for the SEPTEMBER 2003 issue should arrive at PO Box 2 Trentham, 3458,
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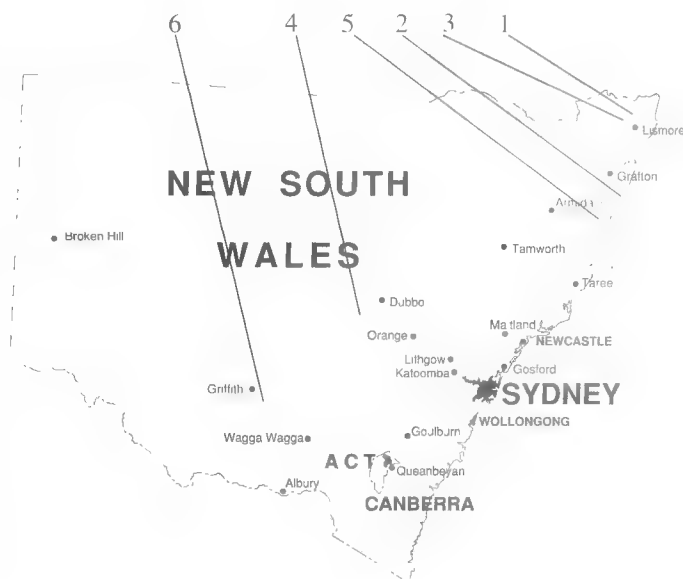
2. 90 ACRES, 17 km west of Woolgoolga, 12 km Glenreagh. NE aspect, large elevated dam, excellent soil. 2 dirt floor sheds & 2 caravans, power and phone. 1 km pristine creek frontage, swimming holes, end of road location, surrounded by State forest. Approximately 10 acres abandoned Nashi pears, 5 acres grass, 75 acres timbered. \$150,000 phone (02) 6655 2023.

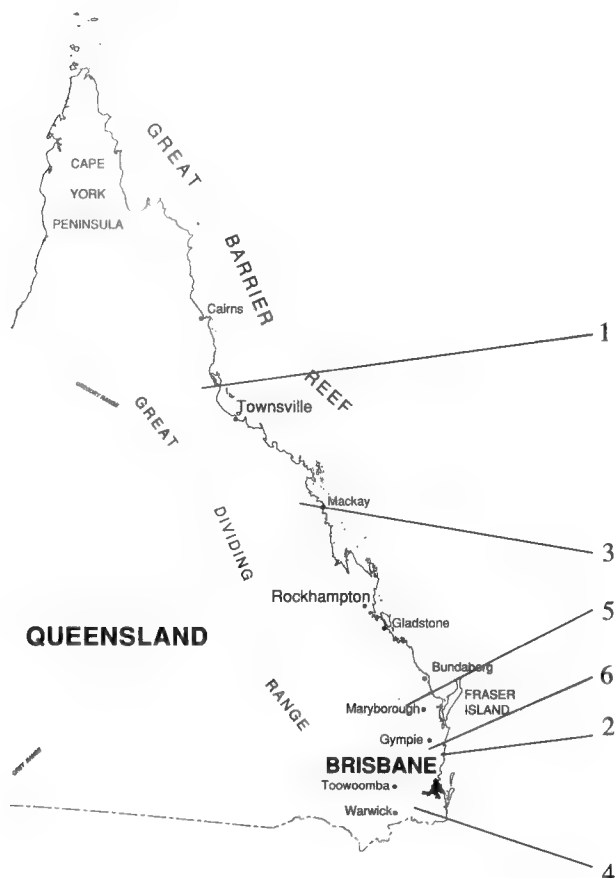
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WATTLES IN MEDIEVAL GARDENS

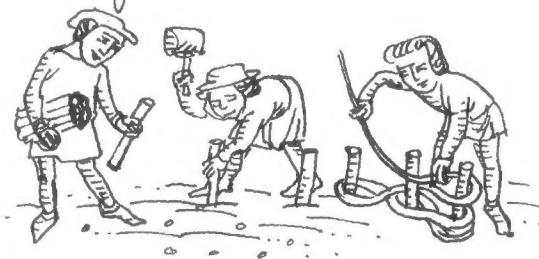


Wattles are not only flowers. They are also the structural part of a wattle-and-daub house. Daub - mostly mud - goes on the outside of the woven wall of posts & branches. Wattles can be made of any soft & flexible twigs, coppiced branches or tree prunings.

Wattles are an appropriate building element in Australia. The new settlers here used it to make cattle pens, garden fences & house walls. They named the plant 'wattle' because it was so good for this use.

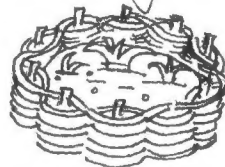


Gather long straight branches that are flexible - watershoots from fruit trees, prunings from privet, mulberry, hibiscus & mock-olive. It's a good way to use up prunings.



Stakes are cut from the thickest sticks - as thick as your thumb or more. Drive them into soft earth till they stand upright. Twigs or finger-thick branches are woven between the stakes. Weave loosely for an open fence. Push weavers down hard to make a firm wall.

A raised bed was common in medieval kitchen-gardens. Made of wattles, it was easy to construct with local materials, easy to replace or re-locate. It's a pleasing contrast with our hard-edged, stone & concrete style of urban gardens.





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